



Selectus Custom Fertilizer -  
Ingredient Safety Data Sheets



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**Section 1: IDENTIFICATION**

**Product Name:** 0-0-21 Manganese Chelate 12 EDTA  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.



**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Manganate(2-), [[N,N'-1,2-ethanediy]bis[N-[(carboxy-.kappa.O)methyl]glycinato-.kappa.N,.kappa.O]](4-)]-, potassium (1:2), (OC-6-21)-	Dipotassium ((N,N'-ethylenebis(N-(carboxymethyl)glycinato))(4-)-N,N',O,O',ON,ON')manganate(2-)	68015-77-0	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

- Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.  
**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

- Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.



**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Recommended storage temperature: -5 C to + 30 °C. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Dipotassium ((N,N'-ethylenebis(N-(carboxymethyl)glycinato))(4-)-N,N',O,O',ON,ON')manganate(2-) [CAS No. 68015-77-0]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use



equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Nitrile gloves, layer thickness 0.11 mm and breakthrough time > 480 minutes, are recommended. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Solid, microgranules.
<b>Colour:</b>	White to yellowish.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	6.0
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.



**Solubilities:** Water solubility: 800 g/l at 20 °C (68 °F).

**Partition Coefficient: n-Octanol/Water:** Not available.

**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** Not available.

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Density:** Not available.

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Dipotassium ((N,N'-ethylenebis(N-(carboxymethyl)glycinato))(4)-N,N',O,O',ON,ON')manganate(2-)	68015-77-0	> 2000 mg/kg (rat)	> 2000 mg/kg (rat)	> 5.16 mg/L (rat); 4H

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.



**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** NOEC (fish, 96h, OECD 203) > 1000 mg/L;  
EC50 (daphnia, 21 days, OECD 211) = 365 mg/L;  
EC50 (algae, 72h, OECD 201) = 649.3 mg/L.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**0-0-21 Manganese chelate 12 EDTA**

Date of Preparation: December 12, 2018

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** 0-0-9 Iron Chelate 11 DTPA

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** 11% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.



**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Diethylenetriaminepentaacetic acid, ferric potassium complex	Fe DTPA K	Not available.	11

**Section 4: FIRST-AID MEASURES**

<b>Inhalation:</b>	If inhaled: Call a poison center or doctor if you feel unwell.  <b>Acute and delayed symptoms and effects:</b> May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
<b>Eye Contact:</b>	If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  <b>Acute and delayed symptoms and effects:</b> May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
<b>Skin Contact:</b>	If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  <b>Acute and delayed symptoms and effects:</b> May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
<b>Ingestion:</b>	If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  <b>Acute and delayed symptoms and effects:</b> May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
<b>General Advice:</b>	In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
<b>Note to Physicians:</b>	Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



Products of Combustion: Oxides of nitrogen.

Protection of Firefighters: Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways.

Methods for Containment: Do not flush to sewer or allow to enter waterways.

Methods for Clean-Up: Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling: Do not swallow. See Section 8 for information on Personal Protective Equipment.

Storage: Recommended storage temperature: -5 C to + 30 °C. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines Component

Fe DTPA K [CAS No. Not applicable]
ACGIH: 10 mg/m³ (TWA) (Inhalable.); 3 mg/m³ (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified
OSHA: 15 mg/m³ (Total dust) (TWA), 5 mg/m³ (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

TWA: Time-Weighted Average

Engineering Controls: Not normally required.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection: Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use

equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Nitrile gloves, layer thickness 0.11 mm and breakthrough time > 480 minutes, are recommended. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Solid, microgranules.
<b>Colour:</b>	Brownish.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	5.0 ± 1.0
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.



**Solubilities:** Water solubility: 700 g/L.

**Partition Coefficient: n-Octanol/Water:** Not available.

**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** Not available.

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Density:** 0.7 ± 0.10 g/cm<sup>3</sup>

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat. Aqueous solutions may be corrosive to metals.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Fe DTPA K	Not available.	Not available.	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.



- Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- Skin Sensitization:** Not available.
- Respiratory Sensitization:** Not available.
- Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

- Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.
- Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.
- Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.
- Mutagenicity:** Not available.
- Reproductive Effects:** Not available.
- Developmental Effects**
  - Teratogenicity:** Not available.
  - Embryotoxicity:** Not available.
- Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

- Ecotoxicity:** Not available.
- Persistence / Degradability:** Not available.
- Bioaccumulation / Accumulation:** Not available.
- Mobility in Environment:** Not available.
- Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

- Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



# Ammonium Nitrate Prill

## Safety Data Sheet

According to US Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and  
Canada Hazardous Products Regulations (WHMIS 2015)  
Revision Date: January 2019

Version: 1.0

### SECTION 1: IDENTIFICATION (OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY)

#### Product Identifier

**Product Name:** Ammonium Nitrate Prill

**Intended Use of the Product:** Fertilizer

#### Name, Address, and Telephone of the Responsible Party/Initial Supplier Identifier

##### Company

El Dorado Chemical Company  
4500 North West Ave.  
P.O. Box 231  
El Dorado, AR 71731  
T (870) 863-1400 - F (870) 863-1126

#### Emergency Telephone Number

**Emergency number :** (870) 863-1400, (800) 424-9300 (CHEMTREC, 24 hours)

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification of the Substance or Mixture

**Classification (GHS-US/WHMIS 2015)**

Ox. Sol. 3 H272

Eye Irrit. 2A H319

#### Label Elements

**GHS-US/WHMIS 2015 Labeling**

**Hazard Pictograms (GHS-US/WHMIS 2015) :**



**Signal Word (GHS-US/WHMIS 2015) :** Warning

**Hazard Statements (GHS-US/WHMIS 2015) :** H272 - May intensify fire; oxidizer  
H319 - Causes serious eye irritation

**Precautionary Statements (GHS-US/WHMIS 2015) :** P210 - Keep away from heat, sparks, open flames, hot surfaces, and other ignition sources. - No smoking.  
P220 - Keep away from combustible materials, clothing, incompatible materials.  
P221 - Take any precaution to avoid mixing with combustibles, organic material, clothing, incompatible materials.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical attention.  
P370+P378 - In case of fire: Use appropriate media for extinction.  
P501 - Dispose of contents/container to local, regional, national, territorial, provincial, and international regulations.

#### Other Hazards

**Other Hazards Not Contributing to the Classification:** Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

**Unknown Acute Toxicity (GHS-US/WHMIS 2015)** Not applicable

# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

#### Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Ammonium nitrate	(CAS No) 6484-52-2	98 - 100	Ox. Sol. 3, H272 Eye Irrit. 2A, H319
Magnesium nitrate	(CAS No) 10377-60-3	<0.1, 0.1 - 0.7	Ox. Sol. 3, H272
Water	(CAS No) 7732-18-5	<0.1, 0.1- 0.5	Not classified

Full text of H-phrases: see section 16

### SECTION 4: FIRST-AID MEASURES

#### Description of First Aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

#### Most Important Symptoms and Effects Both Acute and Delayed

**General:** Eye irritation.

**Inhalation:** May cause respiratory irritation.

**Skin Contact:** May cause skin irritation.

**Eye Contact:** Causes serious eye irritation.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** Not available

#### Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

### SECTION 5: FIRE-FIGHTING MEASURES

#### Extinguishing Media

**Suitable Extinguishing Media:** Water spray.

**Unsuitable Extinguishing Media:** Dry chemical, carbon dioxide, or regular foam. Do not use any method of extinguishing a fire that smothers.

#### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** May intensify fire; oxidizer. Will burn if mixed or contaminated with combustible materials and exposed to heat. In addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire. Will not spontaneously combust. However, spontaneous ignition at moderately elevated temperatures may occur when contaminated with oxidizable materials such as oil, diesel fuel, wood, seed, charcoal, sulphur, finely divided metals or other combustible substances.

**Explosion Hazard:** Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Confinement, smothering, contact with organic material, or combustible material may cause an explosion.

**Reactivity:** May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials. Smothering, contact with organic material, or combustible material may cause an explosive situation.

#### Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.



# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

**Firefighting Instructions:** Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. If structure containing Ammonium Nitrate is fully engulfed in flames, DO NOT fight fire. Evacuate surrounding area for at least ½ mile radius.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Nitrogen oxides. Toxic fumes are released. Carbon oxides (CO, CO<sub>2</sub>). Ammonia.

**Other information:** Do not add water to molten material as this may cause spattering. Do not allow run-off from fire fighting to enter drains or water courses. Never seal off or close building doors or compartments when fire occurs.

### Reference to Other Sections

Refer to section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing (dust). Do not get in eyes, on skin, or on clothing. Keep away from combustible material. Avoid generating dust.

#### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Ventilate area.

### Environmental Precautions

Prevent entry to sewers and public waters.

### Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. Contact competent authorities after a spill. Do not take up in combustible material such as: saw dust or cellulosic material.

### Reference to Other Sections

See section 8, Exposure Controls and Personal Protection.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

**Additional Hazards When Processed:** When heated to decomposition, emits toxic fumes. Smothering, contact with organic material, or combustible material may cause an explosive situation. Do not puncture or incinerate container. NO SMOKING near this material.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

### Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

**Storage Conditions:** Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place.

Keep/Store away from combustible materials, extremely high or low temperatures, direct sunlight, ignition sources, incompatible materials. Floor drains and recesses should be plugged or eliminated to prevent entrapment of solution in the event of a fire. Refer to National Fire Protection Association (NFPA) Code 400, Chapter 11 for recommended best practices.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Halogens (F, Cl, Br, I). Chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. Organic materials. Combustible materials.

**Specific End Use(s)** Not available

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

No additional information available.

### Exposure Controls

**Appropriate Engineering Controls:** Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment.

# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

**Personal Protective Equipment:** Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection. Protective clothing.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical goggles when direct eye contact is possible.

**Skin and Body Protection:** Not available

**Respiratory Protection:** Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Colorless to off-white prills
Odor	: Trace odor of ammonia.
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: 155°C - 169.4 °C (311°F-337°F)
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: >210°C (410°F)
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 1.72 @21.1°C (70°F)
Solubility	: Soluble in water.
Partition Coefficient	: Not available
Viscosity	: Not available
Volatility	: 0%
Explosion Data – Sensitivity to Mechanical Impact	: Not available
Explosion Data – Sensitivity to Static Discharge	: Not available



# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

### SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** May cause or intensify fire; oxidizer. May accelerate the burning of other combustible materials. Confinement, smothering, contact with organic material, or combustible material may cause an explosive situation.

**Chemical Stability:** May intensify fire; oxidizer. Starts to dissociate and decompose at temperatures above 210°C (410°F). Upon decomposition, ammonium nitrate emits nitrogen oxides and water vapor and may explode if confined.

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame. Combustible materials. Sources of ignition. Incompatible materials.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Halogens. Chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. Organic materials.

**Hazardous Decomposition Products:** Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides. Toxic vapors. Ammonia.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** Causes serious eye irritation.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

#### Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:**

Water (7732-18-5)	
LD50 Oral Rat	> 90000 mg/kg
Ammonium nitrate (6484-52-2)	
LD50 Oral Rat	2217 mg/kg
LC50 Inhalation Rat (mg/l)	> 88.8 mg/l/4h
LD50 Dermal	>5000mg/kg
Magnesium nitrate (10377-60-3)	
LD50 Oral Rat	5440 mg/kg

### SECTION 12: ECOLOGICAL INFORMATION

**Toxicity** Not classified

#### Persistence and Degradability

Ammonium Nitrate Prill	
Persistence and Degradability	Not established.

#### Bioaccumulative Potential

Ammonium Nitrate Prill	
Bioaccumulative Potential	Not established.



# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

<b>Ammonium nitrate (6484-52-2)</b>	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-3.1 (at 25 °C)

**Mobility in Soil** Not available

### Other Adverse Effects

**Other Information:** Avoid release to the environment. Ammonium Nitrate is a plant nutrient. However, large spills may kill vegetation and fish and cause algae blooms if waterways are contaminated.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations. Spilled dry material or water solutions can be distributed on land as fertilizer.

**Additional Information:** Clean up even minor leaks or spills if possible without unnecessary risk.

## SECTION 14: TRANSPORT INFORMATION

### 14.1 In Accordance with DOT

**Proper Shipping Name** : AMMONIUM NITRATE *with not more than 0.2% total combustible material, including any organic substance, calculated as carbon to the exclusion of any other added substance*

**Hazard Class** : 5.1

**Identification Number** : UN1942

**Label Codes** : 5.1

**Packing Group** : III

**ERG Number** : 140



### 14.2 In Accordance with IMDG

**Proper Shipping Name** : AMMONIUM NITRATE

**Hazard Class** : 5.1

**Identification Number** : UN1942

**Packing Group** : III

**Label Codes** : 5.1

**EmS-No. (Fire)** : F-H

**EmS-No. (Spillage)** : S-Q



### 14.3 In Accordance with IATA

**Proper Shipping Name** : AMMONIUM NITRATE

**Packing Group** : III

**Identification Number** : UN1942

**Hazard Class** : 5

**Label Codes** : 5.1

**ERG Code (IATA)** : 5L



### 14.4 In Accordance with TDG

**Proper Shipping Name** : AMMONIUM NITRATE

**Packing Group** : III

**Hazard Class** : 5.1

**Identification Number** : UN1942

**Label Codes** : 5.1



## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

<b>Ammonium Nitrate Prill</b>	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)


	Reactive hazard
<b>Water (7732-18-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Ammonium nitrate (6484-52-2)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Magnesium nitrate (10377-60-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### US State Regulations

<b>Ammonium nitrate (6484-52-2)</b>
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

<b>Magnesium nitrate (10377-60-3)</b>
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

### Canadian Regulations

<b>Ammonium Nitrate Prill</b>	
WHMIS Classification	Class C - Oxidizing Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects
	
<b>Water (7732-18-5)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Ammonium nitrate (6484-52-2)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
WHMIS Classification	Class C - Oxidizing Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects
<b>Magnesium nitrate (10377-60-3)</b>	
Listed on the Canadian DSL (Domestic Substances List) inventory.	

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by HPR.

# Ammonium Nitrate Prill

## Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations and Canada Hazardous Products Regulations (WHMIS 2015)

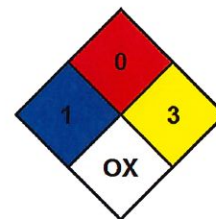
### SECTION 16: OTHER INFORMATION

**Revision date** : January 2019  
**Other Information** : This document has been prepared in accordance with the SDS requirements of the US OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada Hazardous Products Regulations (WHMIS 2015).

#### GHS Full Text Phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Ox. Sol. 3	Oxidizing solids Category 3
H272	May intensify fire; oxidizer
H319	Causes serious eye irritation

**NFPA Health Hazard** : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.  
**NFPA Fire Hazard** : 0 - Materials that will not burn.  
**NFPA Reactivity** : 3 - Capable of detonation or explosive reaction, but requires a strong initiating source or must be heated under confinement before initiation, or reacts explosively with water.  
**NFPA Specific Hazard** : OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.



#### Party Responsible for the Preparation of This Document

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P.O. Box 231  
El Dorado, AR 71731  
(870) 863-1400

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

North America GHS US 2012 & WHMIS



# EL DORADO CHEMICAL COMPANY

## AMMONIUM NITRATE PRILL (AN)

### PRODUCT INFORMATION BULLETIN

The following information supplements the Safety Data Sheet (SDS) for Ammonium Nitrate Prill (AN) dated January, 2019.

#### EMERGENCY OVERVIEW:

- DANGER: STRONG OXIDIZER
  - As an oxidizer, AN may increase the flammability and/or explosiveness of other substances.
  - Potentially explosive if contaminated with organic matter of finely divided metals; if heated under confinement; or if subjected to severe shocks.
  - Unstable at high temperature and may decompose producing toxic vapors (nitrogen oxides, ammonia and nitric acid).

#### POTENTIAL HEALTH HAZARDS:

- Acute (immediate) Exposure
  - AN is a mild skin, eye and respiratory irritant and possible allergen.
  - AN can form methemoglobin, a type of hemoglobin, leading to methemoglobinemia in which hemoglobin cannot release oxygen effectively to body tissues. This can have irreversible effects which can be life threatening.
- Chronic (long-term) Exposure
  - AN is in Class A+ as a reproductive hazard although there is no direct evidence for adverse reproductive effects. Nevertheless, it would be prudent for pregnant women to avoid exposure to AN.

#### FIRE FIGHTING INFORMATION:

- Flammable Properties
  - AN is a strong oxidizing agent and will support combustion in the absence of oxygen.
  - AN will **not** spontaneously combust. However, spontaneous ignition at moderately elevated temperatures may occur when AN is contaminated with oxidizable materials such as oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other organic/combustible substances.
  - If confined and ignition occurs, an explosion may occur.

- Fire and Explosion Hazards
  - Never seal off or close building doors or compartments when fire occurs.
  - Nitrogen oxides emitted during fire and resulting decomposition are extremely toxic.
  - Contamination of AN with oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other organic/combustible substances may result in an explosion during a fire.
  - If structure containing AN is fully engulfed in flames, **DO NOT** fight the fire.
  - Evacuate the surrounding area for at least ½ mile radius.

#### **ACCIDENTAL RELEASE MEASURES:**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- For uncontaminated spills, carefully place spilled material into a clean, dry container and cover loosely; remove from area. Spilled AN can be reused as fertilizer if kept dry and uncontaminated.
- Spilled material that has become contaminated with organic material or other combustible material may present a fire and explosion hazard. Place spilled material in a container and dissolve in water to obtain at least a 50% water solution. Depending on the level of contamination, the solution can be reused as a fertilizer or appropriately disposed of.

#### **HANDLING AND STORAGE:**

- Handling
  - Do not mix with any combustible material. Keep away from heat, sparks, flame, hot surfaces or any other sources of ignition. **NO SMOKING** near this material.
  - Do not get in eyes, on skin or clothing. Do not ingest. Do not inhale dust.
  - Wash hands thoroughly after handling. Remove and wash contaminated clothing promptly.
- Storage
  - Avoid contamination with oil, diesel fuel, wood, seed, charcoal, sulfur, finely divided metals or other combustible substances.
  - Store in well-ventilated areas away from fire hazards and easily oxidizable materials. Keep separate from other chemicals and combustible materials.
  - Floor drains and recesses should be plugged to prevent collection of molten AN in the event of a fire.
  - Refer to National Fire Protection Association (NFPA) Code 400, Chapter 11 for recommended best practices.
  - Stored AN is subject to local regulations (fire and building codes).
  - Storage should be designed for the safe release of pressure in the event of a fire.



## **STABILITY AND REACTIVITY:**

- Stability
  - AN is unstable under high temperatures and near open flames, organic materials, combustible materials or explosives.
  - AN starts to decompose at temperatures above 410 degrees F. Upon decomposition it emits nitrogen oxides (NO<sub>x</sub>) and water vapor and may explode if confined.
  - If AN has been contaminated with another substance (see incompatibility listing below), the decomposition temperature may be reduced and the risk of potential explosion enhanced.
- Incompatibility
  - Partial list of incompatible materials is listed below. Incompatibility varies with AN concentration and not all forms of the substances listed below are incompatible.
    - Combustible materials, metal powders, flammable liquids, explosives and any ignition source. AN is incompatible with the following substances: Acetic Acid, Acetic Anhydride, Alkali Metals, Aluminum + Calcium Nitrate, Aluminum, Ammonium Chloride, Ammonium Dichromate, Ammonium Phosphate + Potassium, Antimony, Barium Chloride, Bismuth, Brass, Cadmium, Charcoal + Metal Oxides, Chloride Salts, Chromium, Cobalt, Copper Iron II Sulfide, Copper, Cyanoguanidine, Hydrocarbon Oils, Iron, Lead, Magnesium, Manganese, Nickel, Organic Fuels, Potassium Chromate, Potassium Dichromate, Potassium Nitrate, Potassium Nitrite, Potassium Permanganate, Sawdust, Sodium Chloride, Sodium Perchlorate, Sugar, Sulfide Ores, Sulfur, Tin, Titanium, Trinitroanisole, and Zinc.

## **TOXICOLOGICAL INFORMATION:**

- Acute
  - Can cause eye and skin irritation and possible chemical burns.
  - Inhalation of dust may cause severe lung congestion and delayed reactions resulting in pulmonary edema and chemical pneumonitis.
  - Ingestion of large doses may cause systemic acidosis and methemoglobinemia.
- Chronic
  - Prolonged and repeated exposure may cause skin dermatitis, kidney damage and conjunctivitis. Exposure may aggravate pre-existing dermatitis and kidney and lung conditions.
  - AN is not classified as a carcinogen.
- Target Organs
  - Eyes, skin and mucous membranes.

## **ECOLOGICAL INFORMATION:**

- AN is a plant nutrient; however, large spills may kill vegetation and fish and cause algae blooms if waterways are contaminated.
- Fertilizers containing AN can cause poisoning in livestock and poultry.



**SECURITY:**

- AN is listed as a Chemical of Interest (COI) by the US Department of Homeland Security (DHS) for theft.

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, El Dorado Chemical Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determinations as to its suitability for their purposes prior to use. In no event will El Dorado Chemical Company be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Issued: January 2019



**Section 1: IDENTIFICATION**

**Product Name:** Ammonium Sulphate  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Sulfuric acid ammonium salt (1:2)	Ammonium sulphate	7783-20-2	95 - 99.5

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of sulphur. Oxides of nitrogen. Ammonia.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Ammonium sulphate [CAS No. 7783-20-2]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.



<b>Hand Protection:</b>	Wear protective gloves. Nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) gloves are recommended. Consult manufacturer specifications for further information.
<b>Skin and Body Protection:</b>	Wear protective clothing.
<b>Respiratory Protection:</b>	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
<b>General Hygiene Considerations:</b>	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White to yellowish crystals.
<b>Colour:</b>	White to yellowish.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (100 g/L):</b>	~ 5 at 20 °C (68 °F)
<b>Melting Point / Freezing Point:</b>	> 300 °C (572 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: 754 to 764 g/L at 20 °C (68 °F).
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow -5.1 (literature)



**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** > 235 °C (455 °F)

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Bulk Density:** 1000 to 1100 kg/m<sup>3</sup>

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat. The substance/product may cake under the influence of moisture.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Nitrites.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Ammonium sulphate	7783-20-2	4250 mg/kg (rat)	> 2000 mg/kg (rat)	> 1mg/L (rat)

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.



**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** LC50 (96 h) 53 mg/l, Oncorhynchus mykiss (Fish test acute); EC50 (48 h) 121.7 mg/l, Ceriodaphnia sp. (Daphnia test acute, static); EC50 (18 d) 2,700 mg/l (growth rate), Chlorella vulgaris (other); EC10 (70 d) 3.12 mg/l (semistatic); LC50 (14 d) 201 mg/kg, Eisenia foetida (artificial soil).

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Component**  
Ammonium sulphate

**CAS No.**  
7783-20-2

**RTK List**  
Listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.





**PLANT PRODUCTS**

**SAFETY DATA SHEET**

## **Ammonium Sulphate**

Date of Preparation: December 12, 2018

### **Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

#### **Component**

Ammonium sulphate

#### **CAS No.**

7783-20-2

#### **RTK List**

E

**Note:** E = Environmental Hazard

### **California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## **Section 16: OTHER INFORMATION**

#### **Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Blue Tracer Dye

**Synonyms:** Not available.

**Product Use:** Specialty Colourant.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
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No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.



**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.  
**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.  
**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.  
**Methods for Containment:** Do not flush to sewer or allow to enter waterways.  
**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.  
**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. See Section 8 for information on Personal Protective Equipment.  
**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA

regulations in 29 CFR 1910.133 for Personal Protective Equipment.

- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Dark blue powder.
<b>Colour:</b>	Dark blue.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	6.5 to 8.5
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Not available.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.



**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** Not available.

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Density:** Not available.

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.



Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system.

Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Label Code: Not applicable.



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SAFETY DATA SHEET

**Blue Tracer Dye**

Date of Preparation: December 12, 2018

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Borax

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Reproductive Toxicity, Category 1B

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** May damage fertility or the unborn child.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF exposed or concerned: Get medical advice/attention.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** 100% of this product mixture consists of ingredient(s) of unknown acute toxicity.



This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Boric acid, sodium salt, pentahydrate	Sodium borate, pentahydrate	11130-12-4	99 - 100

Impurities / Stabilizing additives: None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.



**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Boron compounds.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Sodium borate, pentahydrate [CAS No. 11130-12-4]  
**ACGIH:** 2 mg/m<sup>3</sup> (TWA); 6 mg/m<sup>3</sup> (STEL); A4; Inhalable fraction (2004); For Borate compounds, Inorganic  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average  
**STEL:** Short-Term Exposure Limit

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.



**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White solid.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.



**Lower Flammability Limit:** Not available.  
**Upper Flammability Limit:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Relative Density:** Not available.  
**Solubilities:** Soluble in water.  
**Partition Coefficient: n-Octanol/Water:** Not available.  
**Auto-ignition Temperature:** Not available.  
**Decomposition Temperature:** Not available.  
**Viscosity:** Not available.  
**Percent Volatile, wt. %:** Not available.  
**VOC content, wt. %:** 0  
**Density:** Not available.  
**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.  
**Chemical Stability:** Stable under normal storage conditions.  
**Possibility of Hazardous Reactions:** None known.  
**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.  
**Incompatible Materials:** Strong reducers. Alkali metals.  
**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.  
**Dermal:** Not available.  
**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Sodium borate, pentahydrate	11130-12-4	Not available.	Not available.	Not available.



**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Symptoms of chronic poisoning by boron compounds, borism, vary from dry skin and mucous membranes to appearance of a red tongue, patchy alopecia (hair loss), cracked lips, and conjunctivitis. Infants and young children are more susceptible to boric acid poisoning than adults.

**Carcinogenicity:** Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components.

**Component Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Sodium borate, pentahydrate	A4	Not listed.	Not listed.	Not listed.	Not listed.

**Mutagenicity:** Not available.

**Reproductive Effects:** May damage fertility or the unborn child. Overexposure of male rats to borates causes damage to the testes and reduced sperm production.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.



**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.



**State Regulations  
Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Sodium borate, pentahydrate	11130-12-4	Listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Sodium borate, pentahydrate	11130-12-4	Listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone:** (519) 488-0351

**www.aegisreg.com**



**Section 1: IDENTIFICATION**

**Product Name:** Boric Acid

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Reproductive Toxicity, Category 1B

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** May damage fertility or the unborn child.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF exposed or concerned: Get medical advice/attention.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).



This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Boric acid (H3BO3)	Not available.	10043-35-3	99.75

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Boric acid may be absorbed through damaged or abraded skin in harmful amounts.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Boric acid may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Boric acid poisoning begins with nausea, vomiting and diarrhea, followed by a skin rash and extensive exfoliation of the skin and mucous membranes.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.



**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Boron compounds.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Boric acid [CAS No. 10043-35-3]

**ACGIH:** 2 mg/m<sup>3</sup> (TWA); 6 mg/m<sup>3</sup> (STEL); A4; Inhalable fraction (2004); For Borate compounds, Inorganic

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**STEL:** Short-Term Exposure Limit

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance:** White, crystalline solid.
- Colour:** White.
- Odour:** Odourless.
- Odour Threshold:** Not available.
- Physical State:** Solid.
- pH (4% solution):** 3.9 at 20 °C (68 °F)
- Melting Point / Freezing Point:** 169 °C (336.2 °F)
- Initial Boiling Point:** Not available.
- Boiling Range:** Not available.
- Flash Point:** Not available.
- Evaporation Rate:** Not available.
- Flammability (solid, gas):** See Section 5.



**Lower Flammability Limit:** Not available.  
**Upper Flammability Limit:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Relative Density:** 1.44 (Water = 1)  
**Solubilities:** Solubility in water: 4.7% at 20 °C (68 ° F).  
**Partition Coefficient: n-Octanol/Water:** Not available.  
**Auto-ignition Temperature:** Not available.  
**Decomposition Temperature:** Not available.  
**Viscosity:** Not available.  
**Percent Volatile, wt. %:** Not available.  
**VOC content, wt. %:** Not available.  
**Density:** Not available.  
**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.  
**Chemical Stability:** Stable under normal storage conditions.  
**Possibility of Hazardous Reactions:** None known.  
**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.  
**Incompatible Materials:** Strong reducers. Alkali metals.  
**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.  
**Dermal:** Not available.  
**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Boric acid	10043-35-3	2660 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.





**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching. Boric acid may be absorbed through damaged or abraded skin in harmful amounts.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Boric acid may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Boric acid poisoning begins with nausea, vomiting and diarrhea, followed by a skin rash and extensive exfoliation of the skin and mucous membranes.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Symptoms of chronic poisoning by boron compounds, borism, vary from dry skin and mucous membranes to appearance of a red tongue, patchy alopecia (hair loss), cracked lips, and conjunctivitis.

**Carcinogenicity:** Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components.

**Component Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Boric acid	A4	Not listed.	Not listed.	Not listed.	Not listed.

**Mutagenicity:** Not available.

**Reproductive Effects:** May damage fertility or the unborn child. Boric acid was found to induce testicular atrophy and effects on spermatogenesis in rats and mice in various studies. Effects occurred at dose-levels (27 mg/kg) without general toxicity. Boric acid has selectively damaged the testes, sperm production and fertility in rats and dogs.

**Developmental Effects**

**Teratogenicity:** Developmental effects were observed in mice, rats and rabbits after oral administration of boric acid. However, these effects were considered secondary to maternal toxicity (increased liver and kidney weight).



**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.



**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Component**

Boric acid

**CAS No.**

10043-35-3

**RTK List**

Listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

**Component**

Boric acid

**CAS No.**

10043-35-3

**RTK List**

Listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone:** (519) 488-0351

**www.aegisreg.com**

**Section 1: IDENTIFICATION**

**Product Name:** Calcium Chloride  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Eye Irritation, Category 2A

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Harmful if swallowed.  
Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Rinse mouth.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.



Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Calcium chloride (CaCl <sub>2</sub> )	Not available.	10043-52-4	83 - 87
Potassium chloride (KCl)	Not available.	7447-40-7	2 - 3
Sodium chloride (NaCl)	Not available.	7647-14-5	1 - 2

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Rinse mouth. Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately. Oral ingestion of Calcium chloride may cause serum acidosis.

**Section 5: FIRE-FIGHTING MEASURES**





**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Sodium oxide. Hydrogen chloride. Chlorine. Potassium oxide.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:** Do not swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:** Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**



Exposure Guidelines  
Component

Calcium chloride [CAS No. 10043-52-4]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Potassium chloride [CAS No. 7447-40-7]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Sodium chloride [CAS No. 7647-14-5]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White flakes.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	772 °C (1421.6 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Readily soluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	51 to 61 lb/ft <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**



**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** Calcium chloride may form hydrogen chloride in presence of sulphuric or phosphoric acids.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Strong acids. Strong oxidizers. Metals. Aluminum. Zinc. Borane/boron oxides. Bromine trifluoride. Methyl vinyl ether.

**Hazardous Decomposition Products:** Hydrogen chloride.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Calcium chloride	10043-52-4	1000 mg/kg (rat)	Not available.	Not available.
Potassium chloride	7447-40-7	2600 mg/kg (rat)	Not available.	Not available.
Sodium chloride	7647-14-5	3000 mg/kg (rat)	> 10000 mg/kg (rabbit)	> 42000 mg/m <sup>3</sup> (rat); 1H

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**



**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**





**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Calcium Chloride**

Date of Preparation: December 12, 2018

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Calcium Chloride**

Date of Preparation: December 12, 2018

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Calcium Nitrate Liquid  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Eye Irritation, Category 2A

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Harmful if swallowed.  
Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Rinse mouth.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.



Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Nitric acid, calcium salt (2:1)	Calcium nitrate	10124-37-5	66 - 72
Water	Not available.	7732-18-5	28 - 34

Section 4: FIRST-AID MEASURES

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Rinse mouth. Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

### Section 5: FIRE-FIGHTING MEASURES

#### FLAMMABILITY AND EXPLOSION INFORMATION

High temperatures can evaporate Calcium nitrate to dryness, leaving crystals of calcium nitrate, an oxidizing material. Calcium nitrate does not require atmospheric oxygen and an explosion may occur in the presence of combustible materials.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.  
**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

#### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of nitrogen. Oxygen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Stop leak if without risk. Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Other Information:** See Section 13 for disposal considerations.

### Section 7: HANDLING AND STORAGE

#### Handling:

Do not swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

#### Storage:

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Calcium nitrate [CAS No. 10124-37-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Water [CAS No. 7732-18-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** Not required under normal use conditions.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance:** Clear, colourless liquid.
- Colour:** Colourless.
- Odour:** Odourless.
- Odour Threshold:** Not available.
- Physical State:** Liquid.
- pH:** 5 to 8
- Melting Point / Freezing** Not available.





**Point:**

<b>Initial Boiling Point:</b>	100 °C (212 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	1.45 to 1.47 (Water = 1)
<b>Solubilities:</b>	Soluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions. Do not allow product to dry.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat. Do not allow product to dry.
<b>Incompatible Materials:</b>	Strong acids. Strong bases. Aluminum. Galvanized iron. Zinc. Ammonia. Combustible materials. Organic materials.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.  
**Dermal:** Not available.  
**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Calcium nitrate	10124-37-5	302 mg/kg (rat)	Not available.	Not available.
Water	7732-18-5	> 90 mL/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Calcium Nitrate Liquid**

Date of Preparation: December 12, 2018

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Component**

**CAS No.**

**RTK List**

Calcium nitrate

10124-37-5

Listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone:** (519) 488-0351

**www.aegisreg.com**

**Section 1: IDENTIFICATION**

**Product Name:** Calcium Nitrate, Ammonium Free Liquid  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Eye Irritation, Category 2A

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Harmful if swallowed.  
Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Rinse mouth.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.



Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Nitric acid, calcium salt (2:1)	Calcium nitrate	10124-37-5	66 - 72
Water	Not available.	7732-18-5	28 - 34

Section 4: FIRST-AID MEASURES

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Rinse mouth. Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.



**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

High temperatures can evaporate Calcium nitrate to dryness, leaving crystals of calcium nitrate, an oxidizing material. Calcium nitrate does not require atmospheric oxygen and an explosion may occur in the presence of combustible materials.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of nitrogen. Oxygen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Stop leak if without risk. Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Calcium nitrate [CAS No. 10124-37-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Water [CAS No. 7732-18-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear chemical safety goggles. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** Not required under normal use conditions.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance:** Clear, colourless liquid.
- Colour:** Colourless.
- Odour:** Odourless.
- Odour Threshold:** Not available.
- Physical State:** Liquid.
- pH:** 5 to 8
- Melting Point / Freezing** Not available.



Point:

<b>Initial Boiling Point:</b>	100 °C (212 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	1.45 to 1.47 (Water = 1)
<b>Solubilities:</b>	Soluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions. Do not allow product to dry.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat. Do not allow product to dry.
<b>Incompatible Materials:</b>	Strong acids. Strong bases. Aluminum. Galvanized iron. Zinc. Ammonia. Combustible materials.
<b>Hazardous Decomposition Products:</b>	Not available.



**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Calcium nitrate	10124-37-5	302 mg/kg (rat)	Not available.	Not available.
Water	7732-18-5	> 90 mL/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.



**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Calcium Nitrate, Ammonium Free Liquid**

Date of Preparation: December 12, 2018

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Component**

Calcium nitrate

**CAS No.**

10124-37-5

**RTK List**

Listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone:** (519) 488-0351

**www.aegisreg.com**



**Section 1: IDENTIFICATION**

**Product Name:** Calcium Nitrate, Ammonium Free  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** January 23, 2019

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Eye Damage, Category 1

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** Harmful if swallowed.  
Causes serious eye damage.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
Rinse mouth.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.



Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Nitric acid, calcium salt (2:1)	Calcium nitrate	10124-37-5	70 - 80
Nitric acid potassium salt (1:1)	Potassium nitrate	7757-79-1	5 - 7

Actual concentration range(s) withheld as a trade secret.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

**Acute and delayed symptoms and effects:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin Contact:** If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**Acute and delayed symptoms and effects:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

#### Section 5: FIRE-FIGHTING MEASURES

##### FLAMMABILITY AND EXPLOSION INFORMATION

High temperatures can evaporate Calcium nitrate to dryness, leaving crystals of calcium nitrate, an oxidizing material. Calcium nitrate does not require atmospheric oxygen and an explosion may occur in the presence of combustible materials.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

##### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of nitrogen. Nitrogen. Potassium nitrite. Potassium oxide. Nitric acid.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

#### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

#### Section 7: HANDLING AND STORAGE

##### Handling:

Do not swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Calcium nitrate [CAS No. 10124-37-5]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Potassium nitrate [CAS No. 7757-79-1]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:**

Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.



**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White crystals.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (110 g/L):</b>	6.3
<b>Melting Point / Freezing Point:</b>	90 to 100 °C (194 to 212 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	2.1 (Water = 1) at 20 °C (68 °F)
<b>Solubilities:</b>	Easily soluble in cold water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	1100 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Acids. Bases. Reducers. Combustible materials.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Calcium nitrate	10124-37-5	302 mg/kg (rat)	Not available.	Not available.
Potassium nitrate	7757-79-1	1901 mg/kg (rabbit)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood. Kidneys.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

**Eye:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of high amounts of Calcium nitrate can cause methaemoglobinaemia, blue-gray skin colour, weakness, dizziness, breathing difficulties, red skin, itching. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.





**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Kidneys.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP. The major concern of possible long-term effects of exposure to nitrate is associated with formation of nitroso compounds, many of which are carcinogenic. This formation may take place wherever nitrite and nitrosable compounds are present, but it is favored by acidic conditions or the presence of some bacteria. The gastrointestinal tract (especially the stomach) is regarded as the main formation site, but nitrosation reactions can also take place in an infected urinary bladder.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Component**

Potassium nitrate

**CAS No.**

7757-79-1

**RTK List**

Listed.



**PLANT PRODUCTS®**

**SAFETY DATA SHEET**

**Calcium Nitrate, Ammonium Free**

Date of Preparation: January 23, 2019

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Component**

Calcium nitrate  
Potassium nitrate

**CAS No.**  
10124-37-5  
7757-79-1

**RTK List**  
Listed.  
Listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

**Component**

Potassium nitrate

**CAS No.**  
7757-79-1

**RTK List**  
Listed.

**California**

**California Prop 65:**



**WARNING** This product can expose you to a chemical which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** January 23, 2019

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**  
**Phone: (519) 488-0351**  
**[www.aegisreg.com](http://www.aegisreg.com)**

Calcium nitrate (Fertilizer Grade)

PP-007

SDS Preparation Date (mm/dd/yyyy): 05/20/2016

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Calcium nitrate (Fertilizer Grade)**

**Product Code(s)** : None assigned.

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Calcium, Ammonium nitrate Fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: Solid -white, prills.  
Odour - Odourless.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Hazard classification:**

Acute toxicity, Oral - Category 4  
Eye damage/irritation - Category 1

**Label elements**

*Hazard pictogram(s)*



*Signal Word*

DANGER!

*Hazard statement(s)*

Harmful if swallowed.  
Causes serious eye damage.

Calcium nitrate (Fertilizer Grade)

PP-007

SDS Preparation Date (mm/dd/yyyy): 05/20/2016

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## SAFETY DATA SHEET

### Precautionary statement(s)

Wear eye/face protection.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTRE or doctor/physician.  
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
Rinse mouth.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.  
Direct skin contact may cause slight or mild, transient irritation.  
Dusts may cause severe irritation or corrosive damage to the respiratory system.  
Ingestion may cause severe burns to the mucous membranes of the digestive tract.  
Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

Ecological information:

Not expected to be harmful to aquatic organisms. Avoid release to the environment.  
See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Nitric acid, ammonium calcium salt	Calcium Ammonium nitrate; CAN	15245-12-2	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Get medical attention immediately.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention immediately.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done. Get medical attention immediately.

Calcium nitrate (Fertilizer Grade)

PP-007

SDS Preparation Date (mm/dd/yyyy): 05/20/2016

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## SAFETY DATA SHEET

### Most important symptoms and effects, both acute and delayed

- : Harmful if swallowed. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.  
Causes serious eye damage. Symptoms may include a burning sensation, pain, watering, and/or changes in vision (blurred vision). Permanent eye damage including blindness could result.
- : Direct skin contact may cause slight or mild, transient irritation. Contact with dust can cause mechanical irritation or drying of the skin.
- : Dusts may cause severe irritation or corrosive damage to the respiratory system. Symptoms include: Cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Symptoms may be delayed. Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### *Suitable extinguishing media*

- : Water spray, fog (flooding amounts).

#### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread the fire.  
Do not use carbon dioxide or other smothering agents, as they may be ineffective.

### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. May decompose to form toxic/corrosive gasses if exposed to high heat. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

### Hazardous combustion products

- : Nitrogen oxides (NOx); Calcium oxides; Ammonia; and other irritating fumes and smoke.

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Contaminated surfaces may be slippery. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. Contaminated surfaces may be slippery. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus.  
Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. Prevent product from entering drains, sewers, waterways and soil.



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### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. Material can create slippery conditions. Avoid dust formation. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Keep container tightly closed when not in use. Wear appropriate protective equipment. Avoid breathing dust. Material can create slippery conditions. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Do not ingest. Wash thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Empty containers retain residue and can be dangerous.

- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep away from heat and sources of ignition. Keep away from direct sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in open or unlabelled containers. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

- Incompatible materials** : Acids; Bases; Reducing agents.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Nitric acid, ammonium calcium salt	N/Av	N/Av	N/Av	N/Av

### Exposure controls

#### Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

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- Respiratory protection** : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
- Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Depending on conditions of use, safety shoes and additional protective clothing may also be necessary.
- Eye / face protection** : Chemical goggles must be worn to prevent dusts from entering the eyes. A full face shield may also be necessary.
- Other protective equipment** : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Solid - white, prills
- Odour** : Odourless.
- Odour threshold** : N/Ap
- pH** : 5-7 (110 g/l)
- Melting/Freezing point** : 752°F / 400°C Melting point
- Initial boiling point and boiling range** : Decomposes on heating.
- Flash point** : N/Ap
- Flashpoint (Method)** : N/Ap
- Evaporation rate (BuAe = 1)** : N/Ap
- Flammability (solid, gas)** : Not considered flammable.
- Lower flammable limit (% by vol.)** : N/Ap
- Upper flammable limit (% by vol.)** : N/Ap
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : N/Ap
- Vapour density** : N/Ap
- Relative density / Specific gravity** : N/Av
- Solubility in water** : Soluble (>100 g/l)
- Other solubility(ies)** : N/Av
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : N/Ap
- Auto-ignition temperature** : N/Ap
- Decomposition temperature** : N/Av
- Viscosity** : N/Ap
- Volatiles (% by weight)** : N/Av
- Volatile organic Compounds (VOC's)** : N/Av

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### Absolute pressure of container

: N/Ap

### Flame projection length

: N/Ap

### Other physical/chemical comments

: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

## SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive.

**Chemical stability** : Stable under normal conditions. Decomposes on heating.

### Possibility of hazardous reactions

: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.

### Conditions to avoid

: Avoid dust formation. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Keep away from extreme heat and flame.

### Incompatible materials

: Acids; Bases; Reducing agents.

### Hazardous decomposition products

: Nitrogen oxides (NOx); Calcium oxides; Ammonia.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

**Routes of entry inhalation** : YES

**Routes of entry skin & eye** : YES

**Routes of entry Ingestion** : YES

### Routes of exposure skin absorption

: NO

### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

##### *Sign and symptoms Inhalation*

: Dusts may cause severe irritation or corrosive damage to the respiratory system  
Symptoms include: Cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

##### *Sign and symptoms ingestion*

: Ingestion may cause severe burns to the mucous membranes of the digestive tract.  
Symptoms may include severe abdominal pain, vomiting, burns and bleeding.

##### *Sign and symptoms skin*

: Direct skin contact may cause slight or mild, transient irritation. Contact with dust can cause mechanical irritation or drying of the skin.

##### *Sign and symptoms eyes*

: Causes serious eye damage. Symptoms may include a burning sensation, pain, watering, and/or changes in vision (blurred vision). Permanent eye damage including blindness could result.

#### Potential Chronic Health Effects

: Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

#### Mutagenicity

: Not expected to be mutagenic in humans.

#### Carcinogenicity

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

#### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

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- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Specific target organ effects** : Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.
- Medical conditions aggravated by overexposure** : Pre-existing skin, eye and respiratory disorders.
- Synergistic materials** : No information available.
- Toxicological data** : This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:  
  
Acute toxicity (Oral) - Category 4. Harmful if swallowed.  
  
See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Nitric acid, ammonium calcium salt	N/Av	>300 - <2000 mg/kg	>2000 mg/kg (rat) (No mortality)

**Other important toxicological hazards**

- : None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

- Ecotoxicity** : Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Nitric acid, ammonium calcium salt	15245-12-2	>100 mg/L Rainbow trout Read-across (Analogy)	157 mg/L (32 days) (Read-across)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Nitric acid, ammonium calcium salt	15245-12-2	>100 mg/L Daphnia magna (Water flea)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Nitric acid, ammonium calcium salt	15245-12-2	>100 mg/L/72hr Green algae	100 mg/L/72hr	None.

**Persistence and degradability**

- : Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

- : Not expected to bioaccumulate.  
See the following data for ingredient information.

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<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Nitric acid, ammonium calcium salt (CAS 15245-12-2)	N/Ap	Not expected to bioaccumulate.

**Mobility in soil** : There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame.  
Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

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Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Nitric acid, ammonium calcium salt	15245-12-2	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Nitric acid, ammonium calcium salt	15245-12-2	No	N/Ap	No	No	No	No	No	No

### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Nitric acid, ammonium calcium salt	15245-12-2	239-289-5	Not listed	Not listed	Not listed	KE-25913	Not listed	May be used as a component in a product covered by a group standard, but is not approved for use as a chemical in its own right.

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations



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CSA: Canadian Standards Association  
EC50: Effective Concentration 50%.  
EINECS: European Inventory of Existing Commercial chemical Substances  
ENCS: Existing and New Chemical Substances  
EPA: Environmental Protection Agency  
IECSC: Inventory of Existing Chemical Substances  
Inh: Inhalation  
IOC: Inventory of Chemicals  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

- References** :
1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
  2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
  3. IARC Monographs. Overall Evaluation of Carcinogenicity
  4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
  5. US EPA Title III List of Lists: March2015 Version
  6. California Proposition 65 List: December4, 2015 Version
  7. European Chemicals Agency, Classification Legislation, 2015

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**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

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<p><b><u>Prepared for:</u></b>          Direct all enquiries to:          Plant Products, Inc.          50 Hazelton Street          PO BOX 33          Leamington, ON, Canada          N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b><u>Prepared by:</u></b>          ICC The Compliance Center Inc.          Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada)  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <b>icc ComplianceCenter</b>

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**

**Section 1: IDENTIFICATION**

**Product Name:** Copper Chelate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Eye Irritation, Category 2A  
Combustible Dust, Category 1

**LABEL ELEMENTS****Hazard****Pictogram(s):****Signal Word:** Warning

**Hazard Statements:** Harmful if swallowed.  
Causes serious eye irritation.  
May form combustible dust concentrations in air.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Rinse mouth.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Not applicable.



**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Cuprate(2-), [[N,N'-1,2-ethanediy]bis[N-[(carboxy-.kappa.O)methyl]glycinato-.kappa.N,.kappa.O]](4-)]-, sodium (1:2), (OC-6-21)-	Copper versenate	14025-15-1	90 - 100

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Rinse mouth. Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).



**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of nitrogen. Oxides of copper.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. Wash



thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Copper versenate [CAS No. 14025-15-1]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator



that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
--

<b>Appearance:</b>	Blue powder.
<b>Colour:</b>	Blue.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	5 to 9
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: 680 g/L at 0 °C (32 °F).
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	≥ 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	263 °C (505.4 °F)
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.



**Bulk Density:** 600 to 900 kg/m<sup>3</sup>

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Strong oxidizers.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** 956.99 mg/kg (calculated)

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Copper versenate	14025-15-1	890 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.



**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Toxicity to fish: LC50 = 555 mg/L (OECD 203);  
 Toxicity to daphnia and other aquatic invertebrates: EC50 = 109.2 mg/L (OECD 202);  
 Toxicity to algae: EC50 = 662.6 mg/L (OECD 201);  
 Toxicity to bacteria: NOEC: 654 mg/L (OECD 209);  
 Toxicity to fish (Chronic toxicity): LC50 = 37.2 mg/L (OECD 210);  
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): 29.5 mg/L (OECD 211).

**Persistence / Degradability:** Not readily biodegradable, but will degrade after a longer period.

**Bioaccumulation / Accumulation:** Not expected considering the low log Pow value.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.



**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Copper Sulphate Pentahydrate**

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Copper Sulphate Pentahydrate**

**Product Code(s)** : None assigned.

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33

Leamington, Ontario, Canada N8H 3W1

Manufacturer's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33

Leamington, Ontario, Canada N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: Solid - crystalline, blue, hygroscopic.

Odour: Odourless.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Acute toxicity, Oral - Category 4

Skin corrosion/irritation - Category 2

Eye damage/irritation - Category 2A

**Label elements**

*Hazard pictogram(s)*



*Signal Word*

WARNING!

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### Hazard statement(s)

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

### Precautionary statement(s)

Wear protective gloves and eye/face protection.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

IF ON SKIN: Wash with plenty of soap and water.  
Take off contaminated clothing and wash before re-use.  
If skin irritation occurs, get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: get medical advice/attention.  
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
Rinse mouth.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:  
Toxic fumes, gases or vapours may evolve on burning.  
Corrosive to plain steel.  
Dusts may cause irritation of the mucous membranes and respiratory tract.  
Prolonged overexposure may cause liver and kidney effects.  
Chronic skin contact with low concentrations may cause dermatitis.

### Ecological information:

Very toxic to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Copper Sulphate Pentahydrate	Cupric sulfate pentahydrate	7758-99-8	99.92%

## SECTION 4. FIRST-AID MEASURES

### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a POISON CENTRE or doctor/physician if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if irritation develops and persists.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub eyes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.



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### Most important symptoms and effects, both acute and delayed

- : Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- : Causes skin irritation. Contact may cause redness, swelling and a painful sensation. Contact with dust can cause mechanical irritation or drying of the skin.
- : Causes serious eye irritation. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Dust contact with the eyes can lead to mechanical irritation.
- : Dusts may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, mucous production and difficulty breathing.
- : Prolonged overexposure may cause liver and kidney effects.
- : Chronic skin contact with low concentrations may cause dermatitis.

### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### *Suitable extinguishing media*

- : Use media suitable for the surrounding area.

#### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread the fire.

### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. May decompose to form toxic/corrosive gasses if exposed to high heat. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

### Hazardous combustion products

- : Copper oxides; Sulfur oxides.

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Contaminated surfaces may be slippery. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. Prevent product from entering drains, sewers, waterways and soil.

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### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. Avoid dust formation. Spills which have occurred outdoors should be temporarily covered to prevent spreading of the chemical by the wind. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Material is hygroscopic and may absorb moisture from air. Keep container tightly closed when not in use. Wear appropriate protective equipment. Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Do not ingest. Wash thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Empty containers retain residue and can be dangerous.

### Conditions for safe storage

- : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep away from heat and sources of ignition. Keep away from direct sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Protect against moisture, water, and physical damage. Do not store in open or unlabelled containers. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

### Incompatible materials

- : Oxidizing agents, Strong acids, Strong bases, Powdered metals, Nitromethane.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Copper Sulphate Pentahydrate	1 mg/m <sup>3</sup> (dust and mist, as Cu)	N/Av	1 mg/m <sup>3</sup> (dust and mist, as Cu)	N/Av

### Exposure controls

#### Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

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- Respiratory protection** : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
- Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye / face protection** : Chemical goggles must be worn to prevent dusts from entering the eyes. A full face shield may also be necessary.
- Other protective equipment** : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Solid - crystalline, blue
- Odour** : Odourless.
- Odour threshold** : N/Ap
- pH** : 3.7-4.2 (10% Solution)
- Melting/Freezing point** : 230°F / 110°C Melting point
- Initial boiling point and boiling range** : Decomposes on heating.
- Flash point** : N/Ap
- Flashpoint (Method)** : N/Ap
- Evaporation rate (BuAe = 1)** : N/Ap
- Flammability (solid, gas)** : Not considered flammable.
- Lower flammable limit (% by vol.)** : N/Ap
- Upper flammable limit (% by vol.)** : N/Ap
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : N/Ap
- Vapour density** : 8.6 (Air = 1.0)
- Relative density / Specific gravity** : 2.2 (water = 1)
- Solubility in water** : Soluble
- Other solubility(ies)** : N/Av
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : N/Ap
- Auto-ignition temperature** : N/Ap
- Decomposition temperature** : N/Av
- Viscosity** : N/Ap
- Volatiles (% by weight)** : N/Av
- Volatile organic Compounds (VOC's)** : N/Av
- Absolute pressure of container** : N/Ap

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Flame projection length : N/Ap

**Other physical/chemical comments**

: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive.

**Chemical stability** : Stable under normal conditions. Decomposes on heating.

**Possibility of hazardous reactions**

: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.

**Conditions to avoid** : Avoid dust formation. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Keep away from extreme heat and flame.

**Incompatible materials** : Moisture. Oxidizing agents. Strong acids. Strong bases. Powdered metals. Nitromethane.

**Hazardous decomposition products**

: Copper oxides; Sulphur oxides.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**

**Routes of entry inhalation** : YES

**Routes of entry skin & eye** : YES

**Routes of entry Ingestion** : YES

**Routes of exposure skin absorption**

: NO

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: Dusts may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, mucous production and difficulty breathing.

*Sign and symptoms ingestion*

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

*Sign and symptoms skin*

: Causes skin irritation. Contact may cause redness, swelling and a painful sensation. Contact with dust can cause mechanical irritation or drying of the skin.

*Sign and symptoms eyes*

: Causes serious eye irritation. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Dust contact with the eyes can lead to mechanical irritation.

**Potential Chronic Health Effects**

: Prolonged overexposure may cause liver and kidney effects. Chronic skin contact with low concentrations may cause dermatitis.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

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**Specific target organ effects** : Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

**Medical conditions aggravated by overexposure**

: Pre-existing skin, eye and respiratory disorders.

**Synergistic materials**

: No information available.

**Toxicological data**

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Acute toxicity (Oral) - Category 4. Harmful if swallowed.

See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Copper Sulphate Pentahydrate	N/Av	481 mg/kg	> 2000 mg/kg (No mortality)

**Other important toxicological hazards**

: None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Very toxic to aquatic life. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Copper Sulphate Pentahydrate	7758-99-8	0.032 mg/L (Rainbow trout)	N/Av	10

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Copper Sulphate Pentahydrate	7758-99-8	0.18 mg/L (Daphnia magna)	N/Av	1

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Copper Sulphate Pentahydrate	7758-99-8	N/Av	N/Av	N/Av

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.  
See the following data for ingredient information.

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<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Copper Sulphate Pentahydrate (CAS 7758-99-8)	N/Ap	N/Ap

**Mobility in soil** : There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper Sulphate Pentahydrate)	9	III	
<b>49CFR/DOT Additional information</b>	This product contains marine pollutants. Not regulated for road or rail shipment if packaged in non-bulk containers (450 L / 119 Gallons or less each).				
TDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper Sulphate Pentahydrate)	9	III	
<b>TDG Additional information</b>	This product contains marine pollutants. The 'Environmentally hazardous' mark must appear on packagings holding more than 5 kg of the material. This material may be shipped as an exempted marine pollutant in accordance with TDG Section 1.45.1 and Special Provision 99.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance meets the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

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<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Copper Sulphate Pentahydrate	7758-99-8	NL	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard, Chronic Health Hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Copper Sulphate Pentahydrate	7758-99-8	No	N/Ap	No	No	No	No	No	No

### Canadian Information:

Canadian Environmental Protection Act (CEPA):

The following ingredient(s) do not appear on the DSL or NDSL: Copper sulfate pentahydrate.

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Copper Sulphate Pentahydrate	7758-99-8	231-847-6 (anhydrous)	Present	Present	(1)-300 (anhydrous)	KE-08956 (anhydrous)	Present	HSR003126

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- EC50: Effective Concentration 50%.
- ECHA: European Chemicals Agency
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency



Copper Sulphate Pentahydrate

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HSDB: Hazardous Substances Data Bank  
IARC: International Agency for Research on Cancer  
IBC: Intermediate Bulk Container  
IECSC: Inventory of Existing Chemical Substances  
Inh: Inhalation  
IOC: Inventory of Chemicals  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OECD: Organisation for Economic Co-operation and Development  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References** : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016  
2. International Agency for Research on Cancer Monographs, searched 2016  
3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2016(Chempendium, HSDB and RTECs).  
4. Material Safety Data Sheets from manufacturer.  
5. US EPA Title III List of Lists - 2016 version.  
6. California Proposition 65 List - 2016 version.  
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2016.

**Preparation Date (mm/dd/yyyy)**

: 06/28/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

**Copper Sulphate Pentahydrate**

PP-009

**SDS Preparation Date (mm/dd/yyyy): 06/28/2016**

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## SAFETY DATA SHEET

<p><b><u>Prepared for:</u></b>          Direct all enquiries to:          Plant Products, Inc.          50 Hazelton Street          PO BOX 33          Leamington, ON, Canada          N8H 3W1</p>	 <p><b>PLANTPRODUCTS®</b></p>
<p><b><u>Prepared by:</u></b>          ICC The Compliance Center Inc.          Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada)  <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**



**Section 1: IDENTIFICATION**

**Product Name:** Iron Chelate 11 DTPA  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard** May form combustible dust concentrations in air.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
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No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average



**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Yellow to green powder.
<b>Colour:</b>	Yellow to green.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	2.5 to 3.5
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.



<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 110 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	≥ 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	650 to 750 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.



**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Not available.
<b>Persistence / Degradability:</b>	Not available.
<b>Bioaccumulation / Accumulation:</b>	Not available.
<b>Mobility in Environment:</b>	Not available.
<b>Other Adverse Effects:</b>	Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION****U.S. Department of Transportation (DOT)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Section 15: REGULATORY INFORMATION****Chemical Inventories****US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations****United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.



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**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Iron Chelate 13 EDTA  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard** May form combustible dust concentrations in air.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
---------------	---------------------------	---------	-----------

No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

TWA: Time-Weighted Average



**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Yellow to brown powder.
<b>Colour:</b>	Yellow to brown.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	4 to 5.5
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.





<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 90 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	> 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	900 to 1000 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Not available.
<b>Persistence / Degradability:</b>	Not available.
<b>Bioaccumulation / Accumulation:</b>	Not available.
<b>Mobility in Environment:</b>	Not available.
<b>Other Adverse Effects:</b>	Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION****U.S. Department of Transportation (DOT)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Section 15: REGULATORY INFORMATION****Federal Regulations****United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations****Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Iron Chelate 13 EDTA**

Date of Preparation: December 12, 2018

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Iron Chelate 6 EDDHA

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard** May form combustible dust concentrations in air.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
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No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average





**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Granular solid.
<b>Colour:</b>	Red brown.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	7 to 9
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.



<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	40000 mg/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 50 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	500 to 700 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

<b>Oral:</b>	Not available.
<b>Dermal:</b>	Not available.
<b>Inhalation:</b>	Not available.



**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Iron Chelate 6 EDDHA**

Date of Preparation: December 12, 2018

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Iron Sulphate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Acute Toxicity - Oral, Category 4  
Skin Irritation, Category 2  
Eye Irritation, Category 2A

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.  
IF ON SKIN: Wash with plenty of water.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Rinse mouth.  
If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.



**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Ferrous sulfate heptahydrate	Not available.	7782-63-0	90 - 100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Prolonged exposure of the eyes may cause discoloration.

**Skin Contact:** If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**Acute and delayed symptoms and effects:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Rinse mouth. Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of large quantities of Ferrous sulfate can produce GI tract disturbances, severe shock, vomiting, liver damage, tachycardia and death. Smaller doses are much more toxic to children. Pink urine discoloration is a strong indicator of iron poisoning.





**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of sulphur. Oxides of iron.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Ferrous sulfate heptahydrate [CAS No. 7782-63-0]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Green or glaucous crystals.  
**Colour:** Green or glaucous (dull grayish-green or blue).  
**Odour:** Odourless.  
**Odour Threshold:** Not available.



<b>Physical State:</b>	Solid.
<b>pH:</b>	3 to 5
<b>Melting Point / Freezing Point:</b>	57 °C (134.6 °F) (loses water)
<b>Initial Boiling Point:</b>	> 300 °C (572 °F) (Decomposes)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	1.898 (Water = 1)
<b>Solubilities:</b>	Water solubility: 48.6 g/100 g water at 50 °C (122 °F).
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat. Looses water in dry air and oxidizes upon exposure to moisture, forming a brown coating of extremely corrosive basic ferric sulfate.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat. Moisture.
<b>Incompatible Materials:</b>	Oxidizers. Alkali metals. Reacts in moist air to form ferric sulfate.
<b>Hazardous Decomposition Products:</b>	Not available.



**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Ferrous sulfate heptahydrate	7782-63-0	1520 mg/kg (mouse)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Prolonged exposure of the eyes may cause discoloration.

**Skin:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. Ingestion of large quantities of Ferrous sulfate can produce GI tract disturbances, severe shock, vomiting, liver damage, tachycardia and death. Smaller doses are much more toxic to children. Pink urine discoloration is a strong indicator of iron poisoning.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Cardiovascular system. Liver.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Severe or chronic Ferrous sulfate poisonings may damage blood vessels. Large chronic doses cause Rickets in infants. Chronic exposure may cause liver effects.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.



**Mutagenicity:** Not available.  
**Reproductive Effects:** Not available.  
**Developmental Effects**  
**Teratogenicity:** Not available.  
**Embryotoxicity:** Not available.  
**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.  
**Persistence / Degradability:** Not available.  
**Bioaccumulation / Accumulation:** Not available.  
**Mobility in Environment:** Not available.  
**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**  
**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.  
**Canada Transportation of Dangerous Goods (TDG)**  
**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.



Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

Component	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313	RCRA CODE	CAA 112(r) TQ (lbs.)
Ferrous sulfate heptahydrate	Not listed.	Not listed.	1000	Not listed.	Not listed.	Not listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Component	CAS No.	RTK List
Ferrous sulfate heptahydrate	7782-63-0	Listed.

New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Ferrous sulfate heptahydrate	7782-63-0	E

Note: E = Environmental Hazard

California

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS: December 12, 2018

Version: 1.0

GHS SDS Prepared by: Aegis Regulatory Inc.

Phone: (519) 488-0351

www.aegisreg.com

**Section 1: IDENTIFICATION**

**Product Name:** Magnesium Chelate 13 EDTA  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard Statements:** May form combustible dust concentrations in air.

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.



**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
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No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White granular solid.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	6.5 to 7
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.



<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 900 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	≥ 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	600 to 800 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

- Oral:** Not available.
- Dermal:** Not available.
- Inhalation:** Not available.

**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

- Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.  
**Persistence / Degradability:** Not available.  
**Bioaccumulation / Accumulation:** Not available.  
**Mobility in Environment:** Not available.  
**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Magnesium Chelate 13 EDTA**

Date of Preparation: December 12, 2018

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Magnesium Nitrate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 12, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Magnesium nitrate hexahydrate	Not available.	13446-18-9	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire.

Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of nitrogen. Oxides of magnesium.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:** Do not swallow. See Section 8 for information on Personal Protective Equipment.

**Storage:** Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Magnesium nitrate hexahydrate [CAS No. 13446-18-9]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are

required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

- Hand Protection:** Wear protective gloves. Nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) gloves are recommended. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Flakes.
<b>Colour:</b>	White to yellowish-greenish white.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (5% solution):</b>	4 to 9
<b>Melting Point / Freezing Point:</b>	95 °C (203 °F)
<b>Initial Boiling Point:</b>	> 330 °C (626 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	<0.001 kPa (<0.01 mmHg) at 20°C (68°F)
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	1.64



**Solubilities:** Highly soluble (> 80%) in water.

**Partition Coefficient: n-Octanol/Water:** The product is more soluble in water; log (octanol/water) < 1.

**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** 330 °C (626 °F)

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Bulk Density:** 0.6 to 1.0 g/cm<sup>3</sup>

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Reducers. Alkali metals. Hydrocarbons.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Magnesium nitrate hexahydrate	13446-18-9	5440 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.



**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. The major acute toxic effect from nitrate ingestion is development of methemoglobinemia, a condition where more than 10% of the hemoglobin is transformed into methemoglobin. Methemoglobin reduces the oxygen-carrying capacity of the blood and, in addition, it interferes with the unloading of oxygen. When the conversion exceeds 70% the condition can be fatal.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP. The major concern of possible long-term effects of exposure to nitrate is associated with formation of nitroso compounds, many of which are carcinogenic. This formation may take place wherever nitrite and nitrosable compounds are present, but it is favored by acidic conditions or the presence of some bacteria. The gastrointestinal tract (especially the stomach) is regarded as the main formation site, but nitrosation reactions can also take place in an infected urinary bladder.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Freshwater fish: LC50/96h = 1378 mg/L (based on reliable studies with potassium nitrate);  
 Freshwater invertebrates: EC50/48h = 490 mg/L (based on reliable studies with potassium nitrate);  
 Freshwater algae: EC50/LC50 >1700 mg/L (based on reliable studies with potassium nitrate).



<b>Persistence / Degradability:</b>	Not available.
<b>Bioaccumulation / Accumulation:</b>	Low potential for bioaccumulation.
<b>Mobility in Environment:</b>	Not available.
<b>Other Adverse Effects:</b>	Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.





**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Magnesium Nitrate**

Date of Preparation: December 12, 2018

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 12, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**www.aegisreg.com**



**Magnesium Sulphate, Technical Grade**

PP-010

**SDS Preparation Date (mm/dd/yyyy): 05/20/2016**

Page 1 of 10

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Magnesium Sulphate, Technical Grade**

**Product Code(s)** : Epsom Salt

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical.  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Supplier's Telephone #** : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: hygroscopic, white solid.  
Odour - Odourless.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Label elements**

*Signal Word*

Not applicable.

*Hazard statement(s)*

Not applicable.

*Precautionary statement(s)*

Not applicable.

**Magnesium Sulphate, Technical Grade**

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### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

Product dust may be irritating to eyes, skin and respiratory system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic skin contact with low concentrations may cause dermatitis.

Ecological information:

Harmful to aquatic life. Avoid release to the environment.

See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Magnesium Sulphate Heptahydrate	Magnesium Sulfate	10034-99-8	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical advice/attention if you feel unwell.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : Product dust may be irritating to eyes, skin and respiratory system.
- Direct contact with eyes may cause temporary irritation. Symptoms may include tearing, redness and discomfort.
- Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.
- Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic skin contact with low concentrations may cause dermatitis.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

- : Use media suitable for the surrounding area.

*Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread fire.

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### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. When substances is heated above 700°C (1290°F), it releases oxygen, which will increase the burning rate of combustible materials. This product is not an oxidizer in its current state. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

### Hazardous combustion products

- : Sulfur oxides; Magnesium oxides; Oxygen.

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Keep material, as well as water from fire-fighting efforts, from entering streams, drains and other water systems.

### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Avoid breathing dust. Wear appropriate protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Keep containers closed when not in use. Empty containers retain residue and can be dangerous.

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- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep containers tightly closed when not in use. Material is hygroscopic and may absorb moisture from air. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.
- Incompatible materials** : Strong acids; Oxidizing agents.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Magnesium Sulphate Heptahydrate	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### **Ventilation and engineering measures**

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

##### **Respiratory protection**

- : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

##### **Skin protection**

- : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

##### **Eye / face protection**

- : Chemical goggles should be worn if there is a potential for exposure to particles which could cause eye contact or injury.

##### **Other protective equipment**

- : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

##### **General hygiene considerations**

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : hygroscopic, white solid
- Odour** : Odourless.
- Odour threshold** : N/Av
- pH** : 7.9 (10% Solution)(anhydrous)
- Melting/Freezing point** : Decomposes.
- Initial boiling point and boiling range** : Decomposes.
- Flash point** : N/Av
- Flashpoint (Method)** : N/Av

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**Evaporation rate (BuAe = 1)** : N/Ap  
**Flammability (solid, gas)** : Not considered flammable.  
**Lower flammable limit (% by vol.)**  
: N/Ap  
**Upper flammable limit (% by vol.)**  
: N/Ap  
**Oxidizing properties** : None known.  
**Explosive properties** : Not explosive  
**Vapour pressure** : N/Ap  
**Vapour density** : N/Ap  
**Relative density / Specific gravity**  
: 1.73 @68°F (20°C)  
**Solubility in water** : Soluble (340 g/l@68°F (20°C))  
**Other solubility(ies)** : Insoluble in organic solvents.  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**  
: N/Ap  
**Auto-ignition temperature** : N/Ap  
**Decomposition temperature** : 302-662°F (150-350°C) (approximately)  
**Viscosity** : N/Ap  
**Volatiles (% by weight)** : N/Ap  
**Volatile organic Compounds (VOC's)**  
: N/Ap  
**Absolute pressure of container**  
: N/Ap  
**Flame projection length** : N/Ap  
**Other physical/chemical comments**  
: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive.  
**Chemical stability** : Stable under normal conditions. Material is hygroscopic and may absorb moisture from air.  
**Possibility of hazardous reactions**  
: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** : Moisture. High humidity. Extreme heat.  
Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.  
**Incompatible materials** : Strong acids, Oxidizing agents.  
**Hazardous decomposition products**  
: Sulfur oxides; Magnesium oxides; Oxygen.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

**Routes of entry inhalation** : YES  
**Routes of entry skin & eye** : YES  
**Routes of entry Ingestion** : YES

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**Routes of exposure skin absorption**

: NO

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.

*Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

*Sign and symptoms skin*

: Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.

*Sign and symptoms eyes*

: Direct eye contact may cause irritation. Symptoms may include redness, itching and swelling.

**Potential Chronic Health Effects**

: Chronic skin contact with low concentrations may cause dermatitis.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects**

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

**Medical conditions aggravated by overexposure**

: Pre-existing skin, eye and respiratory disorders.

**Synergistic materials**

: No information available.

**Toxicological data**

: Not classified for acute toxicity based on available data. See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Magnesium Sulphate Heptahydrate	N/Av	≥2000 mg/kg (anhydrous) (No mortality)	>2000 mg/kg (Read-across) (No mortality)

**Other important toxicological hazards**

: None reported by the manufacturer.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

: Harmful to aquatic life. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.



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**Ecotoxicity data:**

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Magnesium Sulphate Heptahydrate	10034-99-8	>96.4 mg/L (anhydrous) Rainbow trout	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Magnesium Sulphate Heptahydrate	10034-99-8	>88.7 mg/L (anhydrous) Daphnia magna (Water flea)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Magnesium Sulphate Heptahydrate	10034-99-8	>99.2 mg/L/72hr (anhydrous) Green algae	N/Av	None.

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.  
See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Magnesium Sulphate Heptahydrate (CAS 10034-99-8)	N/Av	N/Av

**Mobility in soil**

: There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle in accordance with good industrial hygiene and safety practice. Do not contaminate ponds, waterways or ditches with chemical or used container. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**



: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Magnesium Sulphate Heptahydrate	10034-99-8	NL	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Magnesium Sulphate Heptahydrate	10034-99-8	No	N/Ap	No	No	No	No	No	No

**Canadian Information:**

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Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### **International Information:**

Components listed below are present on the following International Inventory list:

<b><u>Ingredients</u></b>	<b>CAS #</b>	<b>European EINECS</b>	<b>Australia AICS</b>	<b>Philippines PICCS</b>	<b>Japan ENCS</b>	<b>Korea KECI/KECL</b>	<b>China IECSC</b>	<b>NewZealand IOC</b>
Magnesium Sulphate Heptahydrate	10034-99-8	Not listed	Present	Present	(1)-467	Not listed	Present	May be used as a single component chemical under an appropriate group standard

### **SECTION 16. OTHER INFORMATION**

#### **Legend**

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- EC50: Effective Concentration 50%.
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- IECSC: Inventory of Existing Chemical Substances
- Inh: Inhalation
- IOC: Inventory of Chemicals
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- MA: Massachusetts
- MN: Minnesota
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NOEC: No observable effect concentration
- NTP: National Toxicology Program
- OSHA: Occupational Safety and Health Administration
- PA: Pennsylvania
- PEL: Permissible exposure limit
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- RCRA: Resource Conservation and Recovery Act
- RI: Rhode Island
- SARA: Superfund Amendments and Reauthorization Act
- SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet
- STEL: Short Term Exposure Limit
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations

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TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
- 2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
- 3. IARC Monographs. Overall Evaluation of Carcinogenicity
- 4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
- 5. US EPA Title III List of Lists: March2015 Version
- 6. California Proposition 65 List: April 22, 2016 Version
- 7. European Chemicals Agency, Classification Legislation, 2015
- 8. Material Safety Data Sheet from manufacturer.

**Preparation Date (mm/dd/yyyy)**

: 05/20/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b>Prepared for:</b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b>Prepared by:</b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <b>icc ComplianceCenter</b>

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**



**Section 1: IDENTIFICATION**

**Product Name:** Manganese Chelate  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard** May form combustible dust concentrations in air.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
---------------	---------------------------	---------	-----------

No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average





**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Granular solid.
<b>Colour:</b>	Off-white.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	6 to 7
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.



<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 800 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	≥ 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	600 to 800 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

<b>Oral:</b>	Not available.
<b>Dermal:</b>	Not available.
<b>Inhalation:</b>	Not available.



**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Manganese Chelate**

Date of Preparation: December 19, 2018

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Manganese Sulphate  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Eye Damage, Category 1  
Specific Target Organ Toxicity (Repeated Exposure), Category 2

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard** Causes serious eye damage.

**Statements:** May cause damage to organs through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention:** Do not breathe dust or fumes.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
Get medical advice/attention if you feel unwell.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.



**Ingredients with Unknown Toxicity:** 100% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Manganese sulfate monohydrate	Not available.	10034-96-5	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

**Acute and delayed symptoms and effects:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.



### Section 5: FIRE-FIGHTING MEASURES

#### FLAMMABILITY AND EXPLOSION INFORMATION

Containers may explode when heated.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

#### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.  
Large Fire: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of sulphur. Manganese oxide.

**Protection of Firefighters:** Inhalation of material may be harmful. Contact may cause burns to skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Some liquids produce vapors that may cause dizziness or suffocation. Runoff from fire control may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet). Keep unauthorized personnel away. Stay upwind.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.

**Methods for Containment:** Stop leak if you can do it without risk. Prevent dust cloud.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Do not breathe dust or fumes. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Manganese sulfate monohydrate [CAS No. 10034-96-5]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Powder, dust.
<b>Colour:</b>	Violet.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	850 °C (1562 °F) at 160 mmHg
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	2.95 (Water = 1)
<b>Solubilities:</b>	Soluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.



**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Strong oxidizers. Metals.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Manganese sulfate monohydrate	10034-96-5	Not available.	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Kidneys. Central nervous system.

**Chronic Effects:** Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. Chronic manganese poisoning can result from excessive inhalation and exposure of Manganese sulfate and involves impairment of the central nervous system. Early symptoms are sluggishness, sleepiness, and weakness in the legs. Advanced cases have shown fixed facial

expression, emotional disturbances, spastic gait, and falling. Illness closely resembles Parkinson's Disease. Kidney effects, blood changes and manganese psychosis also may occur as a result of chronic exposure. Chronic inhalation exposure can cause lung damage.

- Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.
- Mutagenicity:** Not available.
- Reproductive Effects:** Not available.
- Developmental Effects**
- Teratogenicity:** Not available.
- Embryotoxicity:** Not available.
- Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

- Ecotoxicity:** Not available.
- Persistence / Degradability:** Not available.
- Bioaccumulation / Accumulation:** Not available.
- Mobility in Environment:** Not available.
- Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

- Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

- Proper Shipping Name:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese sulphate), 9, PG III
- Class:** 9
- UN Number:** UN3077
- Packing Group:** III
- Label Code:**





PLANTPRODUCTS®

SAFETY DATA SHEET

**Manganese Sulphate**

Date of Preparation: December 19, 2018

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Manganese sulphate), 9, PG III

**Class:** 9

**UN Number:** UN3077

**Packing Group:** III

**Label Code:**



**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Manganese Sulphate**

Date of Preparation: December 19, 2018

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Mono Ammonium Phosphate  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.



**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Phosphoric acid, ammonium salt (1:1)	Ammonium dihydrogen phosphate	7722-76-1	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**  
Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.  
**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**  
**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.



**Products of Combustion:** Oxides of phosphorus. Oxides of nitrogen. Ammonia.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Ammonium dihydrogen phosphate [CAS No. 7722-76-1]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA

regulations in 29 CFR 1910.133 for Personal Protective Equipment.

- Hand Protection:** Wear protective gloves. Nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) gloves are recommended. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

#### Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	White crystalline solid.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (10 g/L):</b>	4.3 to 4.5 at 20 °C (68 °F)
<b>Melting Point / Freezing Point:</b>	197 °C (386.6 °F)
<b>Initial Boiling Point:</b>	The substance decomposes before boiling.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	1.81 (Water = 1)
<b>Solubilities:</b>	Water solubility: 370 g/L at 25 °C (77 °F).



**Partition Coefficient: n-Octanol/Water:** Not available.

**Auto-ignition Temperature:** Product is not self-igniting.

**Decomposition Temperature:** > 197 °C (386.6 °F)

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Bulk Density:** 1100 kg/m<sup>3</sup> at 20 °C (68 °F)

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Acids. Bases. Oxidizers. Copper. Copper alloys.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Ammonium dihydrogen phosphate	7722-76-1	> 2000 mg/kg (rat)	> 5000 mg/kg (rat)	> 5.0 mg/L (rat); 4H

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.



**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Algae: EC50 (48 h) > 100 mg/L, 72 hr (OECD 201, freshwater); NOEC > 100 mg/L; Oncorhynchus mykiss: LC50 > 85.9 mg/L, 96 hr (OECD 203, freshwater).

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.





**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Mono Ammonium Phosphate**

Date of Preparation: December 19, 2018

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



Plant Products Inc.  
50 Hazelton Street  
PO BOX 33  
Leamington, Ontario N8H 3W1  
Canada

**Monopotassium Phosphate**

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Monopotassium Phosphate**

**Product Code(s)** : MKP

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical.  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Supplier's Telephone #** : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: white, granular - crystalline, hygroscopic solid.

Odour: Odourless.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Label elements**

*Signal Word*

Not applicable.

*Hazard statement(s)*

Not applicable.

*Precautionary statement(s)*

Not applicable.

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### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

Solutions may be corrosive to metals.

Product dust may be irritating to eyes, skin and respiratory system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

Chronic skin contact with low concentrations may cause dermatitis.

Ecological information:

Not expected to be harmful to aquatic organisms. Avoid release to the environment.

See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Dihydrogen potassium phosphate	Phosphoric acid, Monopotassium salt; MKP	7778-77-0	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical advice/attention if you feel unwell.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.

Direct eye contact may cause irritation. Symptoms may include redness, itching and swelling.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

- : Use media suitable for the surrounding area.

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## SAFETY DATA SHEET

### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread fire.

### **Special hazards arising from the substance or mixture / Conditions of flammability**

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. Decomposes at high temperatures. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### **Flammability classification (OSHA 29 CFR 1910.106)**

- : Not flammable.

### **Hazardous combustion products**

- : Phosphorus oxides; Phosphine; Other irritating fumes and smoke.

### **Special protective equipment and precautions for firefighters**

#### *Protective equipment for fire-fighters*

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Keep material, as well as water from fire-fighting efforts, from entering streams, drains and other water systems.

### **Methods and material for containment and cleaning up**

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### **Special spill response procedures**

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### **Precautions for safe handling**

- : Avoid dust formation. Use in a well-ventilated area. Avoid breathing dust. Wear appropriate protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Keep away from incompatibles. Solutions may be corrosive to metals. Keep away from extreme heat and flame. Keep containers closed when not in use. Empty containers retain residue and can be dangerous.

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- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Material is hygroscopic and may absorb moisture from air. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Solutions may be corrosive to metals. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.
- Incompatible materials** : Strong acids; Strong bases; Oxidizing agents.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Dihydrogen potassium phosphate	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### **Ventilation and engineering measures**

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

##### **Respiratory protection**

- : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

##### **Skin protection**

- : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

##### **Eye / face protection**

- : Chemical goggles should be worn if there is a potential for exposure to particles which could cause eye contact or injury.

##### **Other protective equipment**

- : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

##### **General hygiene considerations**

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : white, granular - crystalline, hygroscopic solid
- Odour** : Odourless.
- Odour threshold** : N/Av
- pH** : 4.2-4.5 (208 g/l @ 68°F / 20°C)
- Melting/Freezing point** : 487°F / 252.6°C Melting point
- Initial boiling point and boiling range** : >842°F / >450°C
- Flash point** : N/Av

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**Flashpoint (Method)** : N/Ap  
**Evaporation rate (BuAe = 1)** : N/Ap  
**Flammability (solid, gas)** : Not considered flammable.  
**Lower flammable limit (% by vol.)**  
: N/Ap  
**Upper flammable limit (% by vol.)**  
: N/Ap  
**Oxidizing properties** : None known.  
**Explosive properties** : Not explosive  
**Vapour pressure** : Does not form vapours at normal room temperatures.  
**Vapour density** : N/Ap  
**Relative density / Specific gravity**  
: 2.34 g/cm<sup>3</sup>  
**Solubility in water** : Soluble (208 g/l @ 68°F / 20°C)  
**Other solubility(ies)** : N/Av  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**  
: N/Ap  
**Auto-ignition temperature** : N/Ap  
**Decomposition temperature** : >842°F / >450°C  
**Viscosity** : N/Ap  
**Volatiles (% by weight)** : N/Ap  
**Volatile organic Compounds (VOC's)**  
: N/Ap  
**Absolute pressure of container**  
: N/Ap  
**Flame projection length** : N/Ap  
**Other physical/chemical comments**  
: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive. Solutions may be corrosive to metals.  
**Chemical stability** : Stable under normal conditions. Material is hygroscopic and may absorb moisture from air. Decomposes on heating.  
**Possibility of hazardous reactions**  
: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** : Moisture. High humidity. Extreme heat.  
Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.  
**Incompatible materials** : Strong acids; Strong bases; Oxidizing agents.  
**Hazardous decomposition products**  
: Phosphorus oxides; Phosphine.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

**Routes of entry inhalation** : YES  
**Routes of entry skin & eye** : YES  
**Routes of entry Ingestion** : YES

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## SAFETY DATA SHEET

### Routes of exposure skin absorption

: NO

### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

##### *Sign and symptoms Inhalation*

: Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.

##### *Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

##### *Sign and symptoms skin*

: Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.

##### *Sign and symptoms eyes*

: Direct eye contact may cause irritation. Symptoms may include redness, itching and swelling.

#### Potential Chronic Health Effects

: Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation. Chronic skin contact with low concentrations may cause dermatitis.

#### Mutagenicity

: Not expected to be mutagenic in humans.

#### Carcinogenicity

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

#### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

#### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

#### Specific target organ effects

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

#### Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

#### Synergistic materials

: No information available.

#### Toxicological data

: Not classified for acute toxicity based on available data. See below for toxicological data on the substance.

<u>Chemical name</u>	<b>LC<sub>50</sub>(4hr)</b>	<b>LD<sub>50</sub></b>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Dihydrogen potassium phosphate	N/Av	4640 mg/kg	>4640 mg/kg

#### Other important toxicological hazards

: None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

: Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.



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## SAFETY DATA SHEET

**Ecotoxicity data:**

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Dihydrogen potassium phosphate	7778-77-0	>100 mg/L (Rainbow trout) (Read-across)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Dihydrogen potassium phosphate	7778-77-0	>100 mg/L(Read-across)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Dihydrogen potassium phosphate	7778-77-0	>100 mg/L/72hr (Read-across)	>100 mg/L/72hr (Read-across)	None.

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.  
See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Dihydrogen potassium phosphate (CAS 7778-77-0)	N/Av	Not expected to bioaccumulate.

**Mobility in soil**

: There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity (RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Dihydrogen potassium phosphate	7778-77-0	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Dihydrogen potassium phosphate	7778-77-0	No	N/Ap	No	No	No	No	No	No

**Canadian Information:**

**Monopotassium Phosphate**

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## SAFETY DATA SHEET

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### **International Information:**

Components listed below are present on the following International Inventory list:

<b>Ingredients</b>	<b>CAS #</b>	<b>European EINECS</b>	<b>Australia AICS</b>	<b>Philippines PICCS</b>	<b>Japan ENCS</b>	<b>Korea KECI/KECL</b>	<b>China IECSC</b>	<b>NewZealand IOC</b>
Dihydrogen potassium phosphate	7778-77-0	231-913-4	Present	Present	(1)-452	KE-28622	Present	HSR003211

### **SECTION 16. OTHER INFORMATION**

#### **Legend**

: ACGIH: American Conference of Governmental Industrial Hygienists  
 AICS: Australian Inventory of Chemical Substances  
 CA: California  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 CSA: Canadian Standards Association  
 EC50: Effective Concentration 50%.  
 EINECS: European Inventory of Existing Commercial chemical Substances  
 ENCS: Existing and New Chemical Substances  
 EPA: Environmental Protection Agency  
 IECSC: Inventory of Existing Chemical Substances  
 Inh: Inhalation  
 IOC: Inventory of Chemicals  
 KECI: Korean Existing Chemicals Inventory  
 KECL: Korean Existing Chemicals List  
 LC: Lethal Concentration  
 LD: Lethal Dose  
 MA: Massachusetts  
 MN: Minnesota  
 N/Ap: Not Applicable  
 N/Av: Not Available  
 NIOSH: National Institute of Occupational Safety and Health  
 NJ: New Jersey  
 NOEC: No observable effect concentration  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PA: Pennsylvania  
 PEL: Permissible exposure limit  
 PICCS: Philippine Inventory of Chemicals and Chemical Substances  
 RCRA: Resource Conservation and Recovery Act  
 RI: Rhode Island  
 SARA: Superfund Amendments and Reauthorization Act  
 SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
 STEL: Short Term Exposure Limit  
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
 TLV: Threshold Limit Values  
 TSCA: Toxic Substance Control Act  
 TWA: Time Weighted Average  
 WHMIS: Workplace Hazardous Materials Identification System

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## SAFETY DATA SHEET

- References** :
1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
  2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
  3. IARC Monographs. Overall Evaluation of Carcinogenicity
  4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
  5. US EPA Title III List of Lists: March 2015 Version
  6. California Proposition 65 List: May 20, 2016 Version
  7. European Chemicals Agency, Classification Legislation, 2015
  8. Material Safety Data Sheet from manufacturer.

**Preparation Date (mm/dd/yyyy)**

: 06/01/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <b>icc ComplianceCenter</b>

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**

**Section 1: IDENTIFICATION**

**Product Name:** PeKacid  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Eye Irritation, Category 2A

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Wash thoroughly after handling.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).



This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Phosphoric acid, potassium salt (2:1)	Not available.	14887-42-4	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**  
Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO2, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.



**Unsuitable Extinguishing Media:** Do not use straight streams.

**Products of Combustion:** Oxides of phosphorus. Potassium oxide.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Phosphoric acid, potassium salt (2:1) [CAS No. 14887-42-4]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this



product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Crystalline powder.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (10 g/L):</b>	2.2 at 20 °C (68 °F)
<b>Melting Point / Freezing Point:</b>	127 to 135 °C (260.6 to 275 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	1.47 mPa (OECD 104, EC A.4)
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.



**Solubilities:** Solubility in water at 20 °C: 583 g/L (OECD 105).

**Partition Coefficient: n-Octanol/Water:** Not available.

**Auto-ignition Temperature:** Product is not self-igniting.

**Decomposition Temperature:** > 200 °C (392 °F)

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Bulk Density:** 1.4 to 2.0 g/cm<sup>3</sup> at 20 °C (68 °F)

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Water. Alkali metals.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Phosphoric acid, potassium salt (2:1)	14887-42-4	Not available.	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.



**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.



**PLANTPRODUCTS®**

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**PeKacid**

Date of Preparation: December 19, 2018

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Potassium Bicarbonate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Not hazardous according to OSHA criteria (29 CFR 1910.1200).  
Not hazardous according to WHMIS 2015 criteria.

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** None.

**Hazard** Not applicable.

**Statements:**

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Carbonic acid, monopotassium salt	Potassium bicarbonate	298-14-6	80 - 100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon.





**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Avoid generating dust. Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Potassium bicarbonate [CAS No. 298-14-6]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.



<b>Hand Protection:</b>	Wear protective gloves. Nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) gloves are recommended. Consult manufacturer specifications for further information.
<b>Skin and Body Protection:</b>	Wear protective clothing.
<b>Respiratory Protection:</b>	If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
<b>General Hygiene Considerations:</b>	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Powder or granules.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	2.17 (Water = 1)
<b>Solubilities:</b>	Soluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.



**Auto-ignition Temperature:** Not available.

**Decomposition Temperature:** 100 °C (212 °F)

**Viscosity:** Not available.

**Percent Volatile, wt. %:** Not available.

**VOC content, wt. %:** Not available.

**Bulk Density:** Not available.

**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.

**Chemical Stability:** Stable under normal storage conditions.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Acids. Ammonium phosphate.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Potassium bicarbonate	298-14-6	> 2000 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.



**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.



**PLANTPRODUCTS®**

SAFETY DATA SHEET

**Potassium Bicarbonate**

Date of Preparation: December 19, 2018

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



Potassium chloride

PP-016

SDS Preparation Date (mm/dd/yyyy): 05/23/2016

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Potassium chloride**

**Product Code(s)** : Muriate of Potash

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical.  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: Solid: white - reddish brown; granular - crystalline  
Odour: Odourless.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

**Label elements**

*Signal Word*

Not applicable.

*Hazard statement(s)*

Not applicable.

*Precautionary statement(s)*

Not applicable.



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### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

Solutions may be corrosive to metals.

Product dust may be irritating to eyes, skin and respiratory system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

Chronic skin contact with low concentrations may cause dermatitis.

Ecological information:

Not expected to be harmful to aquatic organisms. Avoid release to the environment.

See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Potassium chloride	Potassium muriate	7447-40-7	95.0 - 99.5
Sodium chloride	Salt	7647-14-5	0.3 - 3.7

No ingredients listed are considered hazardous according to OSHA HazCom2012 or WHMIS 2015.

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical advice/attention if you feel unwell.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : Product dust may be irritating to eyes, skin and respiratory system.
- Direct contact with eyes may cause temporary irritation. Symptoms may include tearing, redness and discomfort.
- Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.
- Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.
- Chronic skin contact with low concentrations may cause dermatitis.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

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### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

: Use media suitable for the surrounding area.

*Unsuitable extinguishing media*

: Do not use a solid water stream as it may scatter and spread fire.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. This product may form a corrosive fog, if involved in a fire. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

#### Hazardous combustion products

: Hydrogen chloride gas, Chlorine, Dipotassium oxide, Other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

*Protective equipment for fire-fighters*

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

*Special fire-fighting procedures*

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

: Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Keep material, as well as water from fire-fighting efforts, from entering streams, drains and other water systems.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

#### Special spill response procedures

: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

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### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Avoid breathing dust. Wear appropriate protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Keep away from incompatibles. Solutions may be corrosive to metals. Keep away from extreme heat and flame. Keep containers closed when not in use. Empty containers retain residue and can be dangerous.

- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Material is hygroscopic and may absorb moisture from air. Solutions may be corrosive to metals. Keep away from heat and sources of ignition. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

- Incompatible materials** : Acids, Nitrogen compounds, Bromine trifluoride, potassium permanganate.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Potassium chloride	N/Av	N/Av	N/Av	N/Av
Sodium chloride	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

- Respiratory protection** : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

- Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

- Eye / face protection** : Chemical goggles should be worn if there is a potential for exposure to particles which could cause eye contact or injury.

- Other protective equipment** : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

##### General hygiene considerations

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	: Solid: white - reddish brown; granular - crystalline
<b>Odour</b>	: Odourless.
<b>Odour threshold</b>	: N/Ap
<b>pH</b>	: 5.4-10.0 (5% solution)
<b>Melting/Freezing point</b>	: 1423-1428°F / 772-776°C Melting point
<b>Initial boiling point and boiling range</b>	: 2732°F / 1500°C Sublimes
<b>Flash point</b>	: N/Ap
<b>Flashpoint (Method)</b>	: N/Ap
<b>Evaporation rate (BuAe = 1)</b>	: N/Ap
<b>Flammability (solid, gas)</b>	: Not considered flammable.
<b>Lower flammable limit (% by vol.)</b>	: N/Ap
<b>Upper flammable limit (% by vol.)</b>	: N/Ap
<b>Oxidizing properties</b>	: None known.
<b>Explosive properties</b>	: Not explosive
<b>Vapour pressure</b>	: N/Ap
<b>Vapour density</b>	: N/Ap
<b>Relative density / Specific gravity</b>	: 1.986-1.990
<b>Solubility in water</b>	: Soluble (34.2 g/100 mL@68°F (20°C))
<b>Other solubility(ies)</b>	: N/Av
<b>Partition coefficient: n-octanol/water or Coefficient of water/oil distribution</b>	: N/Av
<b>Auto-ignition temperature</b>	: N/Ap
<b>Decomposition temperature</b>	: N/Av
<b>Viscosity</b>	: N/Av
<b>Volatiles (% by weight)</b>	: N/Ap
<b>Volatile organic Compounds (VOC's)</b>	: N/Ap
<b>Absolute pressure of container</b>	: N/Ap
<b>Flame projection length</b>	: N/Ap
<b>Other physical/chemical comments</b>	: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	: Not normally reactive. Solutions may be corrosive to metals.
<b>Chemical stability</b>	: Stable under normal conditions. Material is hygroscopic and may absorb moisture from air.
<b>Possibility of hazardous reactions</b>	: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	: Moisture. High humidity. Extreme heat. Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.
<b>Incompatible materials</b>	: Acids, Nitrogen compounds, Bromine trifluoride, potassium permanganate.

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### Hazardous decomposition products

: Hydrogen chloride gas, Chlorine, Dipotassium oxide.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

#### Potential Health Effects:

##### Signs and symptoms of short-term (acute) exposure

###### *Sign and symptoms Inhalation*

: Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.

###### *Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

###### *Sign and symptoms skin*

: Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.

###### *Sign and symptoms eyes*

: Direct eye contact may cause irritation. Symptoms may include redness, itching and swelling.

##### Potential Chronic Health Effects

: Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation. Chronic skin contact with low concentrations may cause dermatitis.

##### Mutagenicity

: Not expected to be mutagenic in humans.

##### Carcinogenicity

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

##### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

##### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

##### Specific target organ effects

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

##### Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

##### Synergistic materials

: No information available.

##### Toxicological data

: Not classified for acute toxicity based on available data. See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Potassium chloride	N/Av	3020 mg/kg	N/Av
Sodium chloride	>10.5 mg/L (dust)	3000 mg/kg	>10000mg/kg

##### Other important toxicological hazards

: None reported by the manufacturer.

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### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Potassium chloride	7447-40-7	880mg/L Fathead minnow	N/Av	None.
Sodium chloride	7647-14-5	5480mg/L Bluegill sunfish	252 mg/L (33 days) Fathead minnow	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Potassium chloride	7447-40-7	177mg/L Daphnia magna (Water flea)	130 mg/L	None.
Sodium chloride	7647-14-5	4136mg/L Daphnia magna (Water flea)	314mg/L Daphnia pulex (Water flea)	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Potassium chloride	7447-40-7	>100mg/L (Green algae)	>100 mg/L	None.
Sodium chloride	7647-14-5	N/Av	N/Av	N/Av

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.  
See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Potassium chloride (CAS 7447-40-7)	-0.46 (calculated)	N/Av
Sodium chloride (CAS 7647-14-5)	N/Av	N/Av

**Mobility in soil**

: There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

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- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Potassium chloride	7447-40-7	Yes	N/Ap	N/Ap	No	N/Ap
Sodium chloride	7647-14-5	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:



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<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Potassium chloride	7447-40-7	No	N/Ap	No	No	No	No	No	No
Sodium chloride	7647-14-5	No	N/Ap	No	No	No	No	No	No

### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Potassium chloride	7447-40-7	231-211-8	Present	Present	(1)-228	KE-29086	Present	HSR003261
Sodium chloride	7647-14-5	231-598-3	Present	Present	(1)-236	KE-31387	Present	HSR002722

## SECTION 16. OTHER INFORMATION

### Legend

: ACGIH: American Conference of Governmental Industrial Hygienists  
AICS: Australian Inventory of Chemical Substances  
CA: California  
CAS: Chemical Abstract Services  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
CFR: Code of Federal Regulations  
CSA: Canadian Standards Association  
EC50: Effective Concentration 50%.  
EINECS: European Inventory of Existing Commercial chemical Substances  
ENCS: Existing and New Chemical Substances  
EPA: Environmental Protection Agency  
IECSC: Inventory of Existing Chemical Substances  
Inh: Inhalation  
IOC: Inventory of Chemicals  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit

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PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
- 2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
- 3. IARC Monographs. Overall Evaluation of Carcinogenicity
- 4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
- 5. US EPA Title III List of Lists: March2015 Version
- 6. California Proposition 65 List: April 22, 2016 Version
- 7. European Chemicals Agency, Classification Legislation, 2015
- 8. Material Safety Data Sheet from manufacturer.

**Preparation Date (mm/dd/yyyy)**

: 05/23/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.); (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**

Potassium nitrate, Greenhouse Grade

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### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Potassium nitrate, Greenhouse Grade**

**Product Code(s)** : None reported.

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical.  
Use pattern: professional use  
Restriction on use: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**24 Hr. Emergency Tel #** : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: Solid - hygroscopic, white prills / crystalline / powdered form.  
Odour: odourless

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:  
Oxidizing solids - Category 3

**Label elements**

*Hazard pictogram(s)*



*Signal Word*

WARNING!

*Hazard statement(s)*

May intensify fire; oxidizer.

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### Precautionary statement(s)

Keep away from heat.  
Keep/Store away from clothing and other combustible materials.  
Take any precaution to avoid mixing with combustibles.  
Wear protective gloves and eye/face protection.

In case of fire: Use water spray or fog to extinguish.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

May cause mild skin and eye irritation.

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

Ecological information:

Not expected to be harmful to aquatic organisms. Avoid release to the environment. See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Potassium nitrate	Nitrate of potash	7757-79-1	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if irritation develops and persists.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if irritation develops and persists.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : May cause mild skin and eye irritation. May cause mechanical irritation to the eyes and skin. Symptoms may include mild redness and swelling.  
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
Ingestion of large amounts of nitrites or nitrates may affect oxygen transport in the blood and blood system, causing methemoglobinemia.  
Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

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### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

- : Water or fog spray.

*Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread the fire. Avoid using Carbon dioxide or other similar extinguishing agents as they are not effective in fires involving oxidizers.

#### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not flammable. However, the product has oxidizing properties. Contact with combustible material may cause fire. Will support combustion in the absence of oxygen. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

#### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

#### Hazardous combustion products

- : Potassium oxides, Nitrogen oxides (NO<sub>x</sub>), Oxygen.  
In addition, burining organic material may release carbon oxides.

#### Special protective equipment and precautions for firefighters

*Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

*Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

- : Ventilate the area. Remove all sources of ignition. Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Keep material, as well as water from fire-fighting efforts, from entering streams, drains and other water systems.

#### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Vacuum or sweep up spilled material using a method that does not generate airbourne dust. Place in clean, dry and labeled containers. Keep in suitable, closed containers for disposal. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Do not use combustible absorbents, such as sawdust.

#### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).  
EPA/CERCLA Reportable quantity (RQ):  
None known.

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### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

: Avoid dust formation. Use in a well-ventilated area. Avoid breathing dust. Wear appropriate personal protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Minimize dust generation and accumulation. Material is hygroscopic and may absorb moisture from air. Keep away from heat and sources of ignition. Keep away from clothing and other combustible materials. Label containers appropriately. Keep container tightly closed when not in use. Empty containers retain residue and can be dangerous.

**Conditions for safe storage** : Keep in a cool, well-ventilated place. Keep containers dry and tightly closed to avoid moisture absorption and contamination. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from incompatibles. Keep away from heat and sources of ignition. Do not store around flammable or combustible materials. Do not store with or near organic materials, strong acids, or reducing agents.

Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

**Incompatible materials** : Acids. Bases. Combustible materials. Reducing agents. Organic materials. Powdered metals. Moisture.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Potassium nitrate	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### Ventilation and engineering measures

: Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**Respiratory protection** : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

**Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

**Eye / face protection** : Chemical goggles should be worn if there is a potential for exposure to particles which could cause eye contact or injury.

**Other protective equipment** : An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

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### General hygiene considerations

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** : Solid - hygroscopic, white prills / crystalline/ powdered form

**Odour** : Odorless

**Odour threshold** : N/Ap

**pH** : 3-11

**Melting/Freezing point** : 633.2°F / 335°C Melting point

#### Initial boiling point and boiling range

: Decomposes on heating.

**Flash point** : N/Ap

**Flashpoint (Method)** : N/Ap

**Evaporation rate (BuAe = 1)** : Non volatile. (butyl acetate = 1)

**Flammability (solid, gas)** : The product is not flammable.

**Lower flammable limit (% by vol.)**

: N/Ap

**Upper flammable limit (% by vol.)**

: N/Ap

**Oxidizing properties** : May intensify fire; oxidizer.

**Explosive properties** : Not explosive

**Vapour pressure** : <0.001 kPa at 68°F / 20°C

**Vapour density** : Not volatile.

**Relative density / Specific gravity**

: 2.11 g/cm<sup>3</sup>

**Solubility in water** : Soluble. (100 g/l@ 77°F / 25°C)

**Other solubility(ies)** : N/Av

**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**

: <1

**Auto-ignition temperature** : N/Ap

**Decomposition temperature** : >752°F / >400°C

**Viscosity** : N/Ap

**Volatiles (% by weight)** : Not volatile.

**Volatile organic Compounds (VOC's)**

: N/Ap

**Absolute pressure of container**

: N/Ap

**Flame projection length** : N/Ap

**Other physical/chemical comments**

- : Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive. This material is an oxidizer and may react with organic materials.

**Chemical stability** : Stable under normal conditions. Decomposes on heating. Material is hygroscopic and may absorb moisture from air.



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### Possibility of hazardous reactions

- : Contains oxidizers, which may increase the burning rate of combustible materials. Contact with combustible material may cause fire. Will support or initiate combustion or explosion of organic matter and other oxidizable material. Hazardous polymerization does not occur.

### Conditions to avoid

- : Avoid conditions which create dust. Avoid contact with combustible material (paper, wool, oil). Avoid excessive moisture. Keep away from heat and sources of ignition. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

### Incompatible materials

- : Acids, Bases, Combustible material, Reducing agents, Organic materials, Powdered metals.

### Hazardous decomposition products

- : Potassium oxides, Nitrogen oxides (NOx), Oxygen.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

##### *Sign and symptoms Inhalation*

- : Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

##### *Sign and symptoms ingestion*

- : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of large quantities of nitrates may affect oxygen transport in the blood and blood system, causing methemoglobinemia. Symptoms include: Dizziness, Drowsiness, Cyanosis, Unconsciousness.

##### *Sign and symptoms skin*

- : May cause mild skin irritation. May cause mechanical irritation. Symptoms may include mild redness and swelling.

##### *Sign and symptoms eyes*

- : May cause mild eye irritation. May cause mechanical irritation. Symptoms may include mild redness and swelling.

#### Potential Chronic Health Effects

- : Prolonged inhalation may cause susceptibility to respiratory illness from continued irritation.

#### Mutagenicity

- : Not expected to be mutagenic in humans.

#### Carcinogenicity

- : No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

#### Reproductive effects & Teratogenicity

- : Not expected to have other reproductive effects.

#### Sensitization to material

- : Not expected to be a skin or respiratory sensitizer.

#### Specific target organ effects

- : Not classified as a specific target organ toxicity-single exposure. Not classified as specific target organ toxicity-repeated exposure.

#### Medical conditions aggravated by overexposure

- : Pre-existing skin, eye and respiratory disorders.

#### Synergistic materials

- : No information available.

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**Toxicological data** : Not classified for acute toxicity based on available data. See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Potassium nitrate	N/Av	3540 mg/kg	> 5000 mg/kg

**Other important toxicological hazards**

: None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC<sub>50</sub> / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Potassium nitrate	7757-79-1	3000 mg/L (Bluegill sunfish)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC<sub>50</sub> / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Potassium nitrate	7757-79-1	3581 mg/L (Daphnia magna)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC<sub>50</sub> / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Potassium nitrate	7757-79-1	N/Av	N/Av	None.

**Persistence and degradability**

: Biodegradation is not applicable to inorganic materials.

**Bioaccumulation potential**

: No data is available on the product itself. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log K<sub>ow</sub>)</u>	<u>Bioconcentration factor (BCF)</u>
Potassium nitrate (CAS 7757-79-1)	<1	Not expected to bioaccumulate.

**Mobility in soil** : No data is available on the product itself.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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## SAFETY DATA SHEET

### SECTION 13. DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1486	Potassium nitrate	5.1	III	
<b>TDG Additional information</b>	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption.				
49CFR/DOT	UN1486	Potassium nitrate	5.1	III	
<b>49CFR/DOT Additional information</b>	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.152 for additional Limited quantity shipping requirements.				

**Special precautions for user** : Keep away from heat. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

#### US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Potassium nitrate	7757-79-1	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard ;Acute Health Hazard Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

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### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Potassium nitrate	7757-79-1	No	N/Ap	No	Yes	No	Yes	Yes	No

### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Potassium nitrate	7757-79-1	231-818-8	Present	Present	(1)-449	KE-29163	Present	HSR001338

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- EC50: Effective Concentration 50%.
- EINECS: European Inventory of Existing Commercial chemical Substances
- EPA: Environmental Protection Agency
- IARC: International Agency for Research on Cancer
- IECSC: Inventory of Existing Chemical Substances
- Inh: Inhalation
- IOC: Inventory of Chemicals
- KECI: Korean Existing Chemicals Inventory
- KECL: Korean Existing Chemicals List
- LC: Lethal Concentration
- LD: Lethal Dose
- MA: Massachusetts
- MN: Minnesota
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health
- NJ: New Jersey
- NOEC: No observable effect concentration
- NTP: National Toxicology Program

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OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RTECS: Registry of Toxic Effects of Chemical Substances  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

**References**

- : 1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
- 2. Canadian Centre for Occupational Health and Safety, CCHInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
- 3. IARC Monographs. Overall Evaluation of Carcinogenicity
- 4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
- 5. US EPA Title III List of Lists: March 2015 Version
- 6. California Proposition 65 List: April 22, 2016 Version
- 7. European Chemicals Agency, Classification Legislation, 2015

**Preparation Date (mm/dd/yyyy)**

: 05/20/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <p><b>PLANTPRODUCTS®</b></p>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**



**Section 1: IDENTIFICATION**

**Product Name:** Potassium Nitrate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Oxidizing Solids, Category 3

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** May intensify fire; oxidizer.

**Precautionary Statements**

**Prevention:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep away from clothing and other combustible materials.  
Wear protective gloves, protective clothing and eye protection.

**Response:** In case of fire use: Use water.

**Storage:** Not applicable.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).



This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Nitric acid potassium salt (1:1)	Potassium nitrate	7757-79-1	100

**Impurities / Stabilizing additives:** None known.

**Section 4: FIRST-AID MEASURES**

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May intensify fire; oxidizer. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after





fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Use water.

Large Fire: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Do not use dry chemicals or foams. CO2 or Halon® may provide limited control.

**Products of Combustion:** Oxides of nitrogen. Ammonia.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

**Personal Precautions:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

**Environmental Precautions:** Not normally required.

**Methods for Containment:** Stop leak if you can do it without risk. Do not get water inside containers.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:** Do not swallow. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.



**Storage:**

Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Potassium nitrate [CAS No. 7757-79-1]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:**

Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing. Flame resistant clothing that meets the NFPA 2112 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Crystalline/powder/prills.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	3 to 11
<b>Melting Point / Freezing Point:</b>	335 °C (635 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	< 0.001 kPa at 20 °C (68 °F)
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	2.11 (Water = 1)
<b>Solubilities:</b>	Water solubility: 100 g/L at 25 °C (77 °F).
<b>Partition Coefficient: n-Octanol/Water:</b>	The product is more soluble in water, log (octanol/water) < 1.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	400 °C (752 °F)
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Sources of ignition. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.



**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Contact with incompatible materials. Sources of ignition. Exposure to heat.

**Incompatible Materials:** Reducers. Metals. Hydrocarbons. Combustible materials.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Potassium nitrate	7757-79-1	1901 mg/kg (rabbit)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Blood.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.



Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Potassium nitrate (CAS No. 7757-79-1): log Pow: -3.1 at 25 °C (77 °F)

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: UN1486, POTASSIUM NITRATE, 5.1, PG III

Class: 5.1

UN Number: UN1486

Packing Group: III

Label Code:



Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1486, POTASSIUM NITRATE, 5.1, PG III

Class: 5.1

UN Number: UN1486

Packing Group: III

Label Code:



**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Potassium nitrate	7757-79-1	Listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Potassium nitrate	7757-79-1	Listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<b>Component</b>	<b>CAS No.</b>	<b>RTK List</b>
Potassium nitrate	7757-79-1	Listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**





Plant Products Inc.  
50 Hazelton Street  
PO BOX 33  
Leamington, Ontario N8H 3W1  
Canada

Potassium Sulphate

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Potassium Sulphate**

Product Code(s) : None assigned.

Recommended use of the chemical and restrictions on use

: Fertilizer, horticultural chemical.  
Use pattern: professional use  
Recommended restrictions: None known.

Chemical family : Inorganic fertilizer

Name, address, and telephone number of the manufacturer:

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

Name, address, and telephone number of the supplier:

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada  
N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

24 Hr. Emergency Tel # : CANUTEC: 1-888-CANUTEC (1-888-226-8832)

### SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Appearance: solid, crystalline - granular

Odour: Odourless.

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

*Signal Word*

Not applicable.

*Hazard statement(s)*

Not applicable.

*Precautionary statement(s)*

Not applicable.

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### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

Product dust may be irritating to eyes, skin and respiratory system.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic skin contact with low concentrations may cause dermatitis.

Ecological information:

Harmful to aquatic life. Avoid release to the environment.

See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Potassium Sulphate	Sulfuric acid, Potassium Salt	7778-80-5	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical advice/attention if you feel unwell.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : Product dust may be irritating to eyes, skin and respiratory system.
- Direct contact with eyes may cause temporary irritation. Symptoms may include tearing, redness and discomfort.
- Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.
- Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic skin contact with low concentrations may cause dermatitis.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

- : Use media suitable for the surrounding area.

*Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread fire.

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## SAFETY DATA SHEET

### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. This product may form a corrosive fog, if involved in a fire. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

### Hazardous combustion products

- : Sulfur oxides, Potassium oxides.

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Normal protective clothing (bunker gear) may not be adequate. A full-body encapsulating chemical protective suit may be necessary.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Keep material, as well as water from fire-fighting efforts, from entering streams, drains and other water systems.

### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Avoid breathing dust. Wear appropriate protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Keep containers closed when not in use. Empty containers retain residue and can be dangerous.

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- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep containers tightly closed when not in use. Keep away from heat and sources of ignition. Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.
- Incompatible materials** : Strong oxidizing agents, Reducing agents, Metals.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Potassium Sulphate	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

##### **Ventilation and engineering measures**

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

##### **Respiratory protection**

- : If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable approved respiratory protection. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

##### **Skin protection**

- : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

##### **Eye / face protection**

- : Chemical goggles should be worn if there is a potential for exposure to particles which could cause eye contact or injury.

##### **Other protective equipment**

- : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

##### **General hygiene considerations**

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : solid, crystalline - granular
- Odour** : Odourless.
- Odour threshold** : N/Av
- pH** : 4.5 - 7.5 (5% solution)
- Melting/Freezing point** : 1960°F / 1069°C Melting point
- Initial boiling point and boiling range** : 3610°F / 1989°C
- Flash point** : N/Av
- Flashpoint (Method)** : N/Av

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Evaporation rate (BuAe = 1) : N/Ap  
Flammability (solid, gas) : Not considered flammable.  
Lower flammable limit (% by vol.) : N/Ap  
Upper flammable limit (% by vol.) : N/Ap  
Oxidizing properties : None known.  
Explosive properties : Not explosive  
Vapour pressure : N/Ap  
Vapour density : N/Ap  
Relative density / Specific gravity : 2.66  
Solubility in water : Soluble (111 g/l@68°F (20°C))  
Other solubility(ies) : Insoluble in organic solvents.  
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution : N/Ap  
Auto-ignition temperature : N/Ap  
Decomposition temperature : N/Av  
Viscosity : N/Ap  
Volatiles (% by weight) : N/Ap  
Volatile organic Compounds (VOC's) : N/Ap  
Absolute pressure of container : N/Ap  
Flame projection length : N/Ap  
Other physical/chemical comments : Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.  
Chemical stability : Stable under normal conditions.  
Possibility of hazardous reactions : Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.  
Conditions to avoid : Moisture. High humidity. Extreme heat.  
Ensure adequate ventilation, especially in confined areas. Avoid contact with incompatible materials.  
Incompatible materials : Strong oxidizing agents, Reducing agents, Metals.  
Hazardous decomposition products : Sulfur oxides, Potassium oxides.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation : YES  
Routes of entry skin & eye : YES  
Routes of entry Ingestion : YES

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**Routes of exposure skin absorption**

: NO

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: Inhalation of dusts may cause respiratory irritation. May cause coughing and breathing difficulties.

*Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

*Sign and symptoms skin*

: Direct skin contact may cause temporary redness. Symptoms may include redness, itching and swelling.

*Sign and symptoms eyes*

: Direct eye contact may cause irritation. Symptoms may include redness, itching and swelling.

**Potential Chronic Health Effects**

: Chronic skin contact with low concentrations may cause dermatitis.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects**

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

**Medical conditions aggravated by overexposure**

: Pre-existing skin, eye and respiratory disorders.

**Synergistic materials**

: No information available.

**Toxicological data**

: Not classified for acute toxicity based on available data. See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Potassium Sulphate	n/av	6600 mg/kg	>2000 mg/kg (No mortality)

**Other important toxicological hazards**

: None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

: Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

**Ecotoxicity data:**

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Potassium Sulphate	7778-80-5	680 mg/L Fathead minnow	N/Av	None.

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## SAFETY DATA SHEET

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Potassium Sulphate	7778-80-5	720 mg/L Daphnia magna (Water flea)	N/Av	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Potassium Sulphate	7778-80-5	N/Av	N/Av	N/Av

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: Not expected to bioaccumulate.  
See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Potassium Sulphate (CAS 7778-80-5)	N/Av	Not expected to bioaccumulate.

**Mobility in soil**

: There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.


**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				



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TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Potassium Sulphate	7778-80-5	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Potassium Sulphate	7778-80-5	No	N/Ap	No	No	No	No	No	No

**Canadian Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

**International Information:**

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Potassium Sulphate	7778-80-5	231-915-5	Present	Present	(1)-454	KE-29200	Present	HSR002794

Potassium Sulphate

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### SECTION 16. OTHER INFORMATION

#### Legend

: ACGIH: American Conference of Governmental Industrial Hygienists  
AICS: Australian Inventory of Chemical Substances  
CA: California  
CAS: Chemical Abstract Services  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
CFR: Code of Federal Regulations  
CSA: Canadian Standards Association  
EC50: Effective Concentration 50%.  
EINECS: European Inventory of Existing Commercial chemical Substances  
ENCS: Existing and New Chemical Substances  
EPA: Environmental Protection Agency  
IECSC: Inventory of Existing Chemical Substances  
Inh: Inhalation  
IOC: Inventory of Chemicals  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

#### References

- : 1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)  
2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).  
3. IARC Monographs. Overall Evaluation of Carcinogenicity  
4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.  
5. US EPA Title III List of Lists: March2015 Version  
6. California Proposition 65 List: April 22, 2016 Version  
7. European Chemicals Agency, Classification Legislation, 2015  
8. Material Safety Data Sheet from manufacturer.

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**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**

Sodium molybdate - Anhydrous

PP-015

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Sodium molybdate - Anhydrous**

**Product Code(s)** : None assigned.

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family** : Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada N8H 3W1  
Manufacturer's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33  
Leamington, Ontario, Canada N8H 3W1  
Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time) :

**24 Hr. Emergency Tel #** CHEMTREC 1-800-424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: Powder; white, opaque.  
Odour: Odourless.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:  
Acute toxicity, Inhalation - Category 4

**Label elements**

*Hazard pictogram(s)*



*Signal Word*

WARNING!

*Hazard statement(s)*

Harmful if inhaled.

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### Precautionary statement(s)

Avoid breathing dust.  
Use only outdoors or in a well-ventilated area.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.

May cause mild skin and eye irritation.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Prolonged overexposure may cause liver and kidney effects.

Ecological information:

Not expected to be harmful to aquatic organisms. Avoid release to the environment. See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Sodium molybdate	Molybdic acid, disodium salt	7631-95-0	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if irritation develops and persists.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if irritation develops and persists.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub eyes. Remove contact lenses if present and easy to do. Get medical attention if irritation develops and persists.

#### Most important symptoms and effects, both acute and delayed

- : Harmful if inhaled. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Inhalation of dusts may cause respiratory irritation. May cause mild skin and eye irritation. May cause mechanical irritation to the eyes and skin. Symptoms may include mild redness and swelling. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged overexposure may cause liver and kidney effects.

#### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

*Suitable extinguishing media*

- : Use media suitable for the surrounding area.

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### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread the fire.

### **Special hazards arising from the substance or mixture / Conditions of flammability**

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. Decomposes at high temperatures. This product has the potential to act as an oxidizer; however, no reports of oxidizing reactions were located. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### **Flammability classification (OSHA 29 CFR 1910.106)**

- : Not flammable.

### **Hazardous combustion products**

- : Oxides of Molybdenum, Sodium.

### **Special protective equipment and precautions for firefighters**

#### *Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions, protective equipment and emergency procedures**

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. Prevent product from entering drains, sewers, waterways and soil.

### **Methods and material for containment and cleaning up**

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Avoid dust formation. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### **Special spill response procedures**

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### **Precautions for safe handling**

- : Avoid dust formation. Use in a well-ventilated area. Keep container tightly closed when not in use. Wear appropriate protective equipment. Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Do not ingest. Wash thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Empty containers retain residue and can be dangerous.

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- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep away from heat and sources of ignition. Keep away from direct sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in open or unlabelled containers. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.
- Incompatible materials** : Strong oxidizing agents. Halogens. Nitrobenzene. Hydrochloric acid. Sodium Hydroxide.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Sodium molybdate	10 mg/m <sup>3</sup> (inhalable); 3 mg/m <sup>3</sup> (respirable) (soluble Molybdenum compounds)	N/Av	15 mg/m <sup>3</sup> (total dust); 5mg/m <sup>3</sup> (as 'Molybdenum compounds, soluble')	N/Av

#### Exposure controls

##### Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

##### Respiratory protection

- : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.

##### Skin protection

- : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.

##### Eye / face protection

- : Chemical goggles must be worn to prevent dusts from entering the eyes. A full face shield may also be necessary.

##### Other protective equipment

- : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.

##### General hygiene considerations

- : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : Powder; white, opaque
- Odour** : Odourless.
- Odour threshold** : N/Av
- pH** : 7-10
- Melting/Freezing point** : 1268.6°F / 687°C Melting point
- Initial boiling point and boiling range** : Decomposes on heating.



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**Flash point** : N/Ap  
**Flashpoint (Method)** : N/Ap  
**Evaporation rate (BuAe = 1)** : N/Ap  
**Flammability (solid, gas)** : Not considered flammable.  
**Lower flammable limit (% by vol.)**  
: N/Ap  
**Upper flammable limit (% by vol.)**  
: N/Ap  
**Oxidizing properties** : This product has the potential to act as an oxidizer; however, no reports of oxidizing reactions were located  
**Explosive properties** : Not explosive  
**Vapour pressure** : negligible  
**Vapour density** : N/Ap  
**Relative density / Specific gravity**  
: 2.59 @ 20°C / 68°F  
**Solubility in water** : Soluble: 840 g/l@ 20°C / 68°F  
**Other solubility(ies)** : N/Av  
**Partition coefficient: n-octanol/water or Coefficient of water/oil distribution**  
: N/Av  
**Auto-ignition temperature** : N/Ap  
**Decomposition temperature** : 100°C / 212°F  
**Viscosity** : N/Ap  
**Volatiles (% by weight)** : N/Av  
**Volatile organic Compounds (VOC's)**  
: N/Av  
**Absolute pressure of container**  
: N/Ap  
**Flame projection length** : N/Ap  
**Other physical/chemical comments**  
: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive. This product has the potential to act as an oxidizer; however, no reports of oxidizing reactions were located  
**Chemical stability** : Stable under normal conditions. Decomposes on heating.  
**Possibility of hazardous reactions**  
: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.  
**Conditions to avoid** : Avoid dust formation. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Keep away from extreme heat and flame.  
**Incompatible materials** : Strong oxidizing agents. Halogens. Nitrobenzene. Hydrochloric acid. Sodium Hydroxide.  
**Hazardous decomposition products**  
: Oxides of Molybdenum, Sodium.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

**Routes of entry inhalation** : YES  
**Routes of entry skin & eye** : YES

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Routes of entry Ingestion : YES

Routes of exposure skin absorption  
: NO

### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

##### *Sign and symptoms Inhalation*

: Harmful if inhaled. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Inhalation of dusts may cause respiratory irritation.

##### *Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

##### *Sign and symptoms skin*

: May cause mild skin irritation. Contact with dust can cause mechanical irritation or drying of the skin. Symptoms may include mild redness and swelling.

##### *Sign and symptoms eyes*

: May cause mild eye irritation. Dust contact with the eyes can lead to mechanical irritation. Symptoms may include mild redness and swelling.

#### Potential Chronic Health Effects

: Prolonged overexposure may cause liver and kidney effects.

#### Mutagenicity

: Not expected to be mutagenic in humans.

#### Carcinogenicity

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

#### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

#### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

#### Specific target organ effects

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

#### Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

#### Synergistic materials

: No information available.

#### Toxicological data

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Acute toxicity (Inhalation) - Category 4. Harmful if inhaled.

See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh, rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Sodium molybdate	> 1.93 mg/L (dust) (No mortality)	4233 mg/kg	> 2000 mg/kg (No mortality)

#### Other important toxicological hazards

: None reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

: Not expected to be harmful to aquatic organisms. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

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**Ecotoxicity data:**

<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Sodium molybdate	7631-95-0	609.1 mg/L (Rainbow trout) (Read-across)	200 mg/L/32-day	None.

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Sodium molybdate	7631-95-0	130.9 mg/L (Daphnia magna)	368.3 mg/L (Read-across)	None.

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Sodium molybdate	7631-95-0	362.9 mg/L/72hr (Green algae)	27 mg/L/72hr (Read-across)	None.

**Persistence and degradability**

: Biodegradation is not applicable to inorganic substances.

**Bioaccumulation potential**

: See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Sodium molybdate (CAS 7631-95-0)	N/Ap	N/Ap

**Mobility in soil**

: There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal**

: Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal**

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA**

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

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### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Sodium molybdate	7631-95-0	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

**US State Right to Know Laws:**

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sodium molybdate	7631-95-0	No	N/Ap	No	No	No	No	No	No

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### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECS</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Sodium molybdate	7631-95-0	231-551-7	Present	Present	(1)-478	KE-12357	Present	HSR004007

### SECTION 16. OTHER INFORMATION

#### Legend

: ACGIH: American Conference of Governmental Industrial Hygienists  
 AICS: Australian Inventory of Chemical Substances  
 CA: California  
 CAS: Chemical Abstract Services  
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980  
 CFR: Code of Federal Regulations  
 CSA: Canadian Standards Association  
 EC50: Effective Concentration 50%.  
 EINECS: European Inventory of Existing Commercial chemical Substances  
 ENCS: Existing and New Chemical Substances  
 EPA: Environmental Protection Agency  
 IECSC: Inventory of Existing Chemical Substances  
 Inh: Inhalation  
 IOC: Inventory of Chemicals  
 KECI: Korean Existing Chemicals Inventory  
 KECL: Korean Existing Chemicals List  
 LC: Lethal Concentration  
 LD: Lethal Dose  
 MA: Massachusetts  
 MN: Minnesota  
 N/Ap: Not Applicable  
 N/Av: Not Available  
 NIOSH: National Institute of Occupational Safety and Health  
 NJ: New Jersey  
 NOEC: No observable effect concentration  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PA: Pennsylvania  
 PEL: Permissible exposure limit  
 PICCS: Philippine Inventory of Chemicals and Chemical Substances  
 RCRA: Resource Conservation and Recovery Act  
 RI: Rhode Island  
 SARA: Superfund Amendments and Reauthorization Act  
 SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
 STEL: Short Term Exposure Limit  
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
 TLV: Threshold Limit Values  
 TSCA: Toxic Substance Control Act  
 TWA: Time Weighted Average

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- References** :
- WHMIS: Workplace Hazardous Materials Identification System
1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
  2. Canadian Centre for Occupational Health and Safety, CCIInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
  3. European Chemicals Agency, Classification Legislation, 2016.
  4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
  5. US EPA Title III List of Lists: March2015 Version
  6. California Proposition 65 List: May20, 2016 Version
  7. Safety Data Sheet from manufacturer.

**Preparation Date (mm/dd/yyyy)**

: 06/07/2016

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <b>PLANTPRODUCTS®</b>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <b>icc ComplianceCenter</b>

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Plant Products, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc. and Plant Products, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Plant Products, Inc.

**END OF DOCUMENT**



**Section 1: IDENTIFICATION**

**Product Name:** Solupotasse

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Eye Damage, Category 1

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** Causes serious eye damage.

**Precautionary Statements**

**Prevention:** Wear protective gloves, protective clothing, eye protection and face protection.

**Response:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.





**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Sulfuric acid potassium salt (1:2)	Potassium sulfate	7778-80-5	85 - 90
Sulfuric acid, potassium salt (1:1)	Potassium bisulfate	7646-93-7	10 - 15

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.  
**Acute and delayed symptoms and effects:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Not flammable or combustible by OSHA/WHMIS criteria.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO2, water spray or regular foam.  
Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.



**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of sulphur. Potassium oxide. Potassium oxide.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Potassium sulfate [CAS No. 7778-80-5]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Potassium bisulfate [CAS No. 7646-93-7]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Crystalline solid, powder.
<b>Colour:</b>	Colourless to white.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH:</b>	Not available.
<b>Melting Point / Freezing Point:</b>	1067 °C (1952.6 °F)
<b>Initial Boiling Point:</b>	1689 °C (3072.2 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.



**Lower Flammability Limit:** Not available.  
**Upper Flammability Limit:** Not available.  
**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Relative Density:** Not available.  
**Solubilities:** Soluble in water.  
**Partition Coefficient: n-Octanol/Water:** Not available.  
**Auto-ignition Temperature:** Not available.  
**Decomposition Temperature:** Not available.  
**Viscosity:** Not available.  
**Percent Volatile, wt. %:** Not available.  
**VOC content, wt. %:** Not available.  
**Density:** 1210 kg/m<sup>3</sup>  
**Coefficient of Water/Oil Distribution:** Not available.

**Section 10: STABILITY AND REACTIVITY**

**Reactivity:** Contact with incompatible materials. Exposure to heat.  
**Chemical Stability:** Stable under normal storage conditions.  
**Possibility of Hazardous Reactions:** None known.  
**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.  
**Incompatible Materials:** Strong bases. Strong oxidizers. Alcohols. Aluminum. Metals.  
**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.  
**Dermal:** Not available.  
**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Potassium sulfate	7778-80-5	6600 mg/kg (rat)	Not available.	Not available.
Potassium bisulfate	7646-93-7	2340 mg/kg (rat)	Not available.	Not available.



**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** **Potassium sulphate:**  
Mouse (female) (OECD 429): Not sensitizing.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Potassium sulphate:**  
NOAEL ≥ 1500 mg/kg bw/day, 28 day(s), rat (male/female) (OECD 422) - No adverse systemic effects;  
NOAEL = 256 mg/kg bw/day, 52 day(s), rat (male) (OECD 453) - No adverse systemic effects;  
NOAEL = 284 mg/kg bw/day, 52 day(s), rat (female) (OECD 453) - No adverse systemic effects.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Potassium sulphate:**  
**Carcinogenicity:**  
Oral: 104 week(s), rat (male/female) (Equivalent to OECD 453) - No adverse systemic effects.

**Mutagenicity:** **Potassium sulphate:**  
**Mutagenicity (in vivo):**  
Bacteria (*S.typhimurium*): Negative (OECD 471);  
Bacteria (*E. coli*): Negative (OECD 471).

**Mutagenicity (in vitro):**  
Chinese hamster ovary (CHO): Negative (OECD 473);  
Mouse (lymphoma L5178Y cells): Negative (OECD 476).



**Reproductive Effects:** **Potassium sulphate:**  
**Developmental toxicity:**  
 NOAEL ≥ 1500 mg/kg bw/day, 28 day(s), rat (male) (OECD 422) - No adverse systemic effects;  
 NOAEL ≥ 1500 mg/kg bw/day, 53 day(s), rat (female) (OECD 422) - No adverse systemic effects.  
**Effects on fertility:**  
 NOAEL ≥ 1500 mg/kg bw/day, 28 day(s), rat (male/female) (OECD 422) - No adverse systemic effects.

**Developmental Effects**  
**Teratogenicity:** Not available.  
**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** **Potassium sulphate:**  
 Pimephales promelas: LC50 = 680 mg/L, 96 hr, static, fresh water (EPA 600/4-90/027);  
 Daphnia magna: LC50 = 720 mg/L, 48 hr, static, fresh water (EPA 600/4-90/027);  
 Chlorella vulgaris: EC50 = 2700 mg/L, 18 d, static, fresh water;  
 Bacteria: EC50 > 100 mg/L;  
 Bacteria: NOEC = 100 mg/L.  
**Potassium bisulfate:**  
 Leuciscus idus: LC50 = 3500 mg/L.

**Persistence / Degradability:** Not available.  
**Bioaccumulation / Accumulation:** Not available.  
**Mobility in Environment:** Low potential for absorption in soil.  
**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**  
**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.



**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Component**

Potassium bisulfate

**CAS No.**

7646-93-7

**RTK List**

SHHS

**Note:** SHHS = Special Health Hazard Substance

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Urea

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Skin Irritation, Category 2  
Eye Irritation, Category 2A  
Specific Target Organ Toxicity (Single Exposure), Category 3 - Respiratory Irritation

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Warning

**Hazard Statements:** Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.

**Precautionary Statements**

**Prevention:** Avoid breathing dust.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing and eye protection.

**Response:** IF ON SKIN: Wash with plenty of water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Call a POISON CENTER or doctor if you feel unwell.  
If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.



**Storage:** Store in a well-ventilated place. Keep container tightly closed. Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** 4% of this product mixture consists of ingredient(s) of unknown acute toxicity.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Urea	Not available.	57-13-6	97.5 - 99.7
Methylenediurea	Not available.	13547-17-6	0.1 - 2.5
Imidodicarbonic diamide	Not available.	108-19-0	0.1 - 1.5

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**Acute and delayed symptoms and effects:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.



**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

#### Section 5: FIRE-FIGHTING MEASURES

##### FLAMMABILITY AND EXPLOSION INFORMATION

Not flammable or combustible by OSHA/WHMIS criteria. Material will burn at high temperatures.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

##### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of nitrogen. Ammonia. Biuret.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

#### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

#### Section 7: HANDLING AND STORAGE

##### Handling:

Do not swallow. Avoid breathing dust. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. See Section 8 for information on Personal Protective Equipment.

##### Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines  
Component**

Urea [CAS No. 57-13-6]

**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

Methylenediurea [CAS No. 13547-17-6]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Biuret [CAS No. 108-19-0]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White granules.
<b>Colour:</b>	White.
<b>Odour:</b>	Slight ammonia.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (100 g/L):</b>	7.2
<b>Melting Point / Freezing Point:</b>	Not available.
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	80 Pa at 20 °C (68 °F)
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: 1,193 g/L at 25 °C (77 °F).
<b>Partition Coefficient: n- Octanol/Water:</b>	log Pow -1.59 @ 20 °C (68 °F)
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	> 132.6 °C (270.7 °F)
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	750 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.



**Conditions to Avoid:** Contact with incompatible materials. Exposure to heat.

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Nitrates. Hypochlorites.

**Hazardous Decomposition Products:** Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Urea	57-13-6	8471 mg/kg (rat)	Not available.	Not available.
Methylenediurea	13547-17-6	Not available.	Not available.	Not available.
Biuret	108-19-0	Not available.	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** Causes skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.





**Mutagenicity:** *Salmonella typhimurium* - Bacterial reverse mutation assay: Negative. Chinese Hamster – Chromosomal aberration test: Positive (very high dose); Mouse: Positive (very high dose). Non-Bacterial Genetic Toxicity In-Vitro: Chromosomal Aberration: Mouse – Bone Marrow Cytogenetic test: Positive (extremely high dose).

**Reproductive Effects:** No toxic effects on mouse gonads up to 6,750 mg/kg/day. No toxic effects on rat gonads up to 2,250 mg/kg/day.

**Developmental Effects**  
**Teratogenicity:** Not teratogenic.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** *Barillius barna*: LC50 = > 9,100 mg/L, 96 hr; *Daphnia magna*: EC50: > 10,000 mg/L, 24 hr; *Scenadesmus quadricauda*: 192-hr cell multiplication inhibition test-TT > 10,000 mg/L.

**Persistence / Degradability:** Ultimately biodegradable (OECDTG 302B) 93-98% (SCAS 24 hr).

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Stability in Water: T1/2 > 1 year. Stability in Soil: No data available. Transport and Distribution: 0.16% in air; 99.84% in water (calculated (Fugacity Level I)).

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.



**PLANT PRODUCTS**

SAFETY DATA SHEET

**Urea**

Date of Preparation: December 19, 2018

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**



**Section 1: IDENTIFICATION**

**Product Name:** Urea Phosphate

**Synonyms:** Not available.

**Product Use:** Fertilizer.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8

**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)

**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)

**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Skin Corrosion, Category 1B  
Eye Damage, Category 1

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** Causes severe skin burns and eye damage.

**Precautionary Statements**

**Prevention:** Do not breathe dust or fumes.  
Wash thoroughly after handling.  
Wear protective gloves, protective clothing, eye protection and face protection.

**Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
Wash contaminated clothing before reuse.

**Storage:** Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.



Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Urea, phosphate (1:1)	Urea phosphate	4861-19-2	80 - 100

Impurities / Stabilizing additives: None known.

Section 4: FIRST-AID MEASURES

Inhalation: If inhaled: Remove person to fresh air and keep comfortable for breathing.

Acute and delayed symptoms and effects: May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

Eye Contact: If in eyes: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

Acute and delayed symptoms and effects: Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a poison center or doctor. Wash contaminated clothing before reuse.

Acute and delayed symptoms and effects: Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Ingestion: If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.



**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas.

If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO2 or water spray.

Large Fire: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of nitrogen. Oxides of phosphorus.

**Protection of Firefighters:** Avoid any skin contact. Effects of contact or inhalation may be delayed. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet). Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.

**Personal Precautions:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protection recommended in Section 8.

**Environmental Precautions:** Prevent entry into waterways, sewers, basements or confined areas.



**Methods for Containment:** Stop leak if you can do it without risk.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Do not breathe dust or fumes. Wash thoroughly after handling. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Urea phosphate [CAS No. 4861-19-2]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average

**Engineering Controls:** Not normally required.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear chemical safety goggles, and full face shield. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Ensure that eyewash stations and safety showers are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing. Clothing with full length sleeves and pants should be worn.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator



that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with organic vapor/acid gas cartridge and particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

<b>Section 9: PHYSICAL AND CHEMICAL PROPERTIES</b>
--

<b>Appearance:</b>	White crystalline powder.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (0.05% solution in water):</b>	2.75
<b>Melting Point / Freezing Point:</b>	> 200 °C (392 °F) (OECD 102)
<b>Initial Boiling Point:</b>	> 200 °C (392 °F)
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: > 100 g/L at 20 °C (68 °F).
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow -1.73 at 20 °C (68 °F) (Urea)
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.



VOC content, wt. %: Not available.  
 Density: 1.77 g/cm<sup>3</sup> at 20 °C (68 °F)  
 Coefficient of Water/Oil Distribution: Not available.

**Section 10: STABILITY AND REACTIVITY**

Reactivity: Contact with incompatible materials. Exposure to heat.  
 Chemical Stability: Stable under normal storage conditions.  
 Possibility of Hazardous Reactions: None known.  
 Conditions to Avoid: Contact with incompatible materials. Exposure to heat.  
 Incompatible Materials: Strong bases. Strong reducers. Strong oxidizers.  
 Hazardous Decomposition Products: Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

Oral: Not available.  
 Dermal: Not available.  
 Inhalation: Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Urea phosphate	4861-19-2	2600 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.  
**Eye:** Causes serious eye damage. Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.  
**Skin:** Causes severe skin burns. Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.  
**Ingestion:** Causes burns to nose, mouth, throat, and digestive tract. Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea, blood in the feces and/or vomitus may also be seen.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.



Medical Conditions Not available.  
Aggravated By Exposure:

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

Target Organs: Skin. Eyes. Gastrointestinal tract. Respiratory system.  
Chronic Effects: Prolonged or repeated contact may dry skin and cause irritation.  
Carcinogenicity: This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.  
Mutagenicity: Not available.  
Reproductive Effects: Not available.  
Developmental Effects  
Teratogenicity: Not available.  
Embryotoxicity: Not available.  
Toxicologically Synergistic Materials: Not available.

**Section 12: ECOLOGICAL INFORMATION**

Ecotoxicity: Not available.  
Persistence / Degradability: Not available.  
Bioaccumulation / Accumulation: Not available.  
Mobility in Environment: Not available.  
Other Adverse Effects: Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

Proper Shipping Name: UN1759, CORROSIVE SOLIDS, N.O.S. (Urea phosphate), 8, PG II  
Class: 8  
UN Number: UN1759  
Packing Group: II  
Label Code:





**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Urea Phosphate**

Date of Preparation: December 19, 2018

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** UN1759, CORROSIVE SOLIDS, N.O.S. (Urea phosphate), 8, PG II

**Class:** 8

**UN Number:** UN1759

**Packing Group:** II

**Label Code:**



**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The substance is specified on the Non-Domestic Substance list and is subject to the requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.



**PLANTPRODUCTS®**

**SAFETY DATA SHEET**

**Urea Phosphate**

Date of Preparation: December 19, 2018

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** **Aegis Regulatory Inc.**

**Phone: (519) 488-0351**

**[www.aegisreg.com](http://www.aegisreg.com)**

**Section 1: IDENTIFICATION**

**Product Name:** Zinc Chelate 15 EDTA  
**Synonyms:** Not available.  
**Product Use:** Fertilizer.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** Plant Products Inc.  
50 Hazelton Street  
Leamington, Ontario N8H 1B8  
**Phone Number:** 519-326-9037  
Toll free number 1-800-387-2449 (English)  
Toll free number 1-800-361-9184 (French)  
**Emergency Phone:** 1-800-424-9300 (CHEMTREC, 24 hours)  
**Date of Preparation of SDS:** December 19, 2018

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Combustible Dust, Category 1

**LABEL ELEMENTS**

**Hazard** None.

**Pictogram(s):**

**Signal Word:** Warning

**Hazard Statements:** May form combustible dust concentrations in air.

**Precautionary Statements**

**Prevention:** Not applicable.

**Response:** Not applicable.

**Storage:** Not applicable.

**Disposal:** Not applicable.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
---------------	---------------------------	---------	-----------

No hazardous ingredients are present at or above reportable levels.

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.  
**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  
**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately.

**Section 5: FIRE-FIGHTING MEASURES**

**FLAMMABILITY AND EXPLOSION INFORMATION**

May form combustible dust concentrations in air.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** In the form of dust, this material is sensitive to static discharge and may form explosive mixtures with air.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.





**Products of Combustion:** Oxides of carbon. Oxides of nitrogen.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Use explosion-proof equipment. Dust can be a fire or explosion hazard. Sweep up and shovel into suitable containers for disposal. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**  
Do not swallow. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. See Section 8 for information on Personal Protective Equipment.

**Storage:**  
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines Component**

Dust [CAS No. Not applicable]  
**ACGIH:** 10 mg/m<sup>3</sup> (TWA) (Inhalable.); 3 mg/m<sup>3</sup> (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified  
**OSHA:** 15 mg/m<sup>3</sup> (Total dust) (TWA), 5 mg/m<sup>3</sup> (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

**TWA:** Time-Weighted Average



**Engineering Controls:**

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:**

Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:**

Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:**

Wear protective clothing.

**Respiratory Protection:**

If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus must be used.

**General Hygiene Considerations:**

Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White granular solid.
<b>Colour:</b>	White.
<b>Odour:</b>	Odourless.
<b>Odour Threshold:</b>	Not available.
<b>Physical State:</b>	Solid.
<b>pH (1% solution in water):</b>	6 to 7
<b>Melting Point / Freezing Point:</b>	Decomposes before melting.



<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	≥ 40 g/m <sup>3</sup>
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	Not available.
<b>Solubilities:</b>	Water solubility: ~ 1000 g/L.
<b>Partition Coefficient: n-Octanol/Water:</b>	log Pow < 0
<b>Auto-ignition Temperature:</b>	≥ 200 °C (392 °F) (Method: Auto-ignition of a 5 mm dust layer according to EN 50281-2-1)
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Bulk Density:</b>	800 to 1000 kg/m <sup>3</sup>
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Contact with incompatible materials. Exposure to heat.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials. Exposure to heat.
<b>Incompatible Materials:</b>	None known.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

No LC50 or LD50 listed for the components of this product.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Eye:** May cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions** Not available.

**Aggravated By Exposure:**

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation.

**Carcinogenicity:** This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

**Mutagenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Not available.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Not available.
<b>Persistence / Degradability:</b>	Not available.
<b>Bioaccumulation / Accumulation:</b>	Not available.
<b>Mobility in Environment:</b>	Not available.
<b>Other Adverse Effects:</b>	Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION****U.S. Department of Transportation (DOT)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Canada Transportation of Dangerous Goods (TDG)**

<b>Proper Shipping Name:</b>	Not regulated.
<b>Class:</b>	Not applicable.
<b>UN Number:</b>	Not applicable.
<b>Packing Group:</b>	Not applicable.
<b>Label Code:</b>	Not applicable.

**Section 15: REGULATORY INFORMATION****Chemical Inventories****US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations****United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.



**PLANT PRODUCTS**

**SAFETY DATA SHEET**

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

**California**

**California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** December 19, 2018

**Version:** 1.0

**GHS SDS Prepared by:** Aegis Regulatory Inc.

**Phone: (519) 488-0351**

**www.aegisreg.com**

Zinc Sulphate Monohydrate

PP-014

SDS Preparation Date (mm/dd/yyyy): 06/03/2016

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## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

**Product identifier used on the label**

: **Zinc Sulphate Monohydrate**

**Product Code(s)**

: None assigned.

**Recommended use of the chemical and restrictions on use**

: Fertilizer, horticultural chemical  
Use pattern: professional use  
Recommended restrictions: None known.

**Chemical family**

: Inorganic fertilizer

**Name, address, and telephone number of the manufacturer:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33

Leamington, Ontario, Canada N8H 3W1

Manufacturer's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time)

**Name, address, and telephone number of the supplier:**

**Plant Products Inc.**

50 Hazelton Street  
PO BOX 33

Leamington, Ontario, Canada N8H 3W1

Supplier's Telephone # : 519-326-9037 (Monday - Friday, 8:00 am - 5:00 pm, Eastern Standard Time) :

**24 Hr. Emergency Tel #** CHEMTREC 1-800-424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classification of the chemical**

Appearance: White crystals or powder.

Odour: Odourless.

Most important hazards: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Acute toxicity, Oral - Category 4

Eye damage/irritation - Category 1

**Label elements**

*Hazard pictogram(s)*



*Signal Word*

DANGER!

*Hazard statement(s)*

Harmful if swallowed.

Causes serious eye damage.



Zinc Sulphate Monohydrate

PP-014

SDS Preparation Date (mm/dd/yyyy): 06/03/2016

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## SAFETY DATA SHEET

### Precautionary statement(s)

Wear eye/face protection.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTRE or doctor/physician.  
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
Rinse mouth.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

No OSHA defined hazard classes.

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning.  
Direct skin contact may cause slight or mild, transient irritation.  
Dust contact with the eyes can lead to mechanical irritation.  
Dusts may cause irritation of the mucous membranes and respiratory tract.  
Prolonged or repeated exposure may cause anemia, leukopenia, headache, stomach symptoms, and copper deficiency.

Ecological information:

Very toxic to aquatic life. Avoid release to the environment. See Section 12 for more environmental information.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Zinc sulphate, monohydrate	Sulfuric acid, Zinc salt (1:1) monohydrate	7446-19-7	100%

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

- Ingestion* : Rinse mouth thoroughly. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Call a POISON CENTRE or doctor/physician if you feel unwell.
- Inhalation* : Remove exposed person to fresh air immediately. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention if irritation develops and persists.
- Skin contact* : Wash off with soap and plenty of water. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Do not rub eyes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done. Get medical attention immediately.

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### Most important symptoms and effects, both acute and delayed

- : Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- : Causes serious eye damage. Symptoms may include a burning sensation, pain, watering, and/or changes in vision (blurred vision). Dust contact with the eyes can lead to mechanical irritation.
- : Direct skin contact may cause slight or mild, transient irritation. Contact with dust can cause mechanical irritation or drying of the skin.
- : Dusts may cause irritation of the mucous membranes and respiratory tract.
- : Symptoms may include coughing, mucous production and difficulty breathing.
- : Prolonged or repeated exposure may cause anemia, leukopenia, headache, stomach symptoms, and copper deficiency.

### Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing media

#### *Suitable extinguishing media*

- : Use media suitable for the surrounding area.

#### *Unsuitable extinguishing media*

- : Do not use a solid water stream as it may scatter and spread the fire.

### Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Toxic fumes, gases or vapours may evolve on burning. May decompose to form toxic/corrosive gasses if exposed to high heat. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

### Flammability classification (OSHA 29 CFR 1910.106)

- : Not flammable.

### Hazardous combustion products

- : Nitrogen oxides (NOx); Sulfur oxides.

### Special protective equipment and precautions for firefighters

#### *Protective equipment for fire-fighters*

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

#### *Special fire-fighting procedures*

- : Move containers from fire area if safe to do so. Contaminated surfaces may be slippery. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Keep people away from and upwind of spill/leak. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. Prevent product from entering drains, sewers, waterways and soil.

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### Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. Avoid dust formation. Vacuum or sweep up spilled material using a method that does not generate airborne dust. Place in clean, dry and labeled containers. Clean surface thoroughly to remove residual contamination. After cleaning, flush away traces with water. Do not flush into surface water or sanitary sewer system. Refer to Section 13 for disposal of contaminated material. Contact the proper local authorities.

### Special spill response procedures

- : For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC). If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

EPA/CERCLA Reportable quantity (RQ):  
None known.

## SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

- : Avoid dust formation. Use in a well-ventilated area. Keep container tightly closed when not in use. Wear appropriate protective equipment. Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Do not ingest. Wash thoroughly after handling. Keep away from incompatibles. Keep away from extreme heat and flame. Empty containers retain residue and can be dangerous.

- Conditions for safe storage** : Store in a cool, dry, well ventilated area. Store away from incompatible materials. Keep away from heat and sources of ignition. Keep away from direct sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Do not store in open or unlabelled containers. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.

- Incompatible materials** : Bases; Reducing agents; Oxidizing agents.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Zinc sulphate, monohydrate	N/Av	N/Av	N/Av	N/Av

### Exposure controls

#### Ventilation and engineering measures

- : Use only in well-ventilated areas. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

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- Respiratory protection** : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Use a NIOSH approved dust respirator if dust levels exceed exposure limits. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
- Skin protection** : Wear protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye / face protection** : Chemical goggles must be worn to prevent dusts from entering the eyes. A full face shield may also be necessary.
- Other protective equipment** : Emergency showers and eyewash facilities should be nearby. Other equipment may be required depending on workplace standards.
- General hygiene considerations** : Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** : White crystals or powder.
- Odour** : Odourless.
- Odour threshold** : N/Ap
- pH** : 5-6.5 (diluted solution); 4.5 (saturated solution)
- Melting/Freezing point** : 1256°F / 680°C Melting point
- Initial boiling point and boiling range** : Decomposes on heating.
- Flash point** : N/Ap
- Flashpoint (Method)** : N/Ap
- Evaporation rate (BuAe = 1)** : N/Ap
- Flammability (solid, gas)** : Not considered flammable.
- Lower flammable limit (% by vol.)** : N/Ap
- Upper flammable limit (% by vol.)** : N/Ap
- Oxidizing properties** : None known.
- Explosive properties** : Not explosive
- Vapour pressure** : N/Ap
- Vapour density** : N/Ap
- Relative density / Specific gravity** : N/Av
- Solubility in water** : Soluble
- Other solubility(ies)** : insoluble: Ethanol
- Partition coefficient: n-octanol/water or Coefficient of water/oil distribution** : Log P(oct) = -0.07 (estimated)
- Auto-ignition temperature** : N/Ap
- Decomposition temperature** : N/Av
- Viscosity** : N/Ap
- Volatiles (% by weight)** : N/Av
- Volatile organic Compounds (VOC's)** : N/Av
- Absolute pressure of container** : N/Ap

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Flame projection length : N/Ap

**Other physical/chemical comments**

: Not sensitive to static discharge or mechanical impact under normal conditions of use and handling.

### SECTION 10. STABILITY AND REACTIVITY

**Reactivity** : Not normally reactive.

**Chemical stability** : Stable under normal conditions. Decomposes on heating.

**Possibility of hazardous reactions**

: Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.

**Conditions to avoid** : Avoid dust formation. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Keep away from extreme heat and flame.

**Incompatible materials** : Bases; Reducing agents; Oxidizing agents.

**Hazardous decomposition products**

: Nitrogen oxides (NO<sub>x</sub>); Sulphur oxides.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**

**Routes of entry inhalation** : YES

**Routes of entry skin & eye** : YES

**Routes of entry Ingestion** : YES

**Routes of exposure skin absorption**

: NO

**Potential Health Effects:**

**Signs and symptoms of short-term (acute) exposure**

*Sign and symptoms Inhalation*

: Dusts may cause irritation of the mucous membranes and respiratory tract. Symptoms may include coughing, mucous production and difficulty breathing.

*Sign and symptoms ingestion*

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

*Sign and symptoms skin*

: Direct skin contact may cause slight or mild, transient irritation. Contact with dust can cause mechanical irritation or drying of the skin.

*Sign and symptoms eyes*

: Causes serious eye damage. Symptoms may include a burning sensation, pain, watering, and/or changes in vision (blurred vision). Dust contact with the eyes can lead to mechanical irritation.

**Potential Chronic Health Effects**

: Prolonged or repeated exposure may cause anemia, leukopenia, headache, stomach symptoms, and copper deficiency.

**Mutagenicity**

: Not expected to be mutagenic in humans.

**Carcinogenicity**

: No component of this product present at levels greater than, or equal to, 0.1% is identified as a carcinogen or potential carcinogen by ACGIH, IARC, OSHA, or NTP.

**Reproductive effects & Teratogenicity**

: Not expected to cause reproductive effects.

**Sensitization to material**

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects**

: Not classified as a specific target organ toxicity-single exposure.  
Not classified as specific target organ toxicity-repeated exposure.

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### Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

### Synergistic materials

: No information available.

### Toxicological data

: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:

Acute toxicity (Oral) - Category 4. Harmful if swallowed.

See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u> <u>inh. rat</u>	<u>LD<sub>50</sub></u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Zinc sulphate, monohydrate	N/Av	>1000 - <2000 mg/kg	>2000 mg/kg (no deaths)

### Other important toxicological hazards

: None reported by the manufacturer.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Very toxic to aquatic life. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

### Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Zinc sulphate, monohydrate	7446-19-7	0.33 - 0.78 mg/L (Fathead minnow) (anhydrous)	0.129 mg/L (32 days) (heptahydrate)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Zinc sulphate, monohydrate	7446-19-7	0.28 mg/L (Daphnia magna (Water flea)) (anhydrous)	0.031 mg/L (50 days) (heptahydrate)	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Zinc sulphate, monohydrate	7446-19-7	N/Av	0.05 mg/L/72hr (Green algae) (Zinc)	None.

### Persistence and degradability

: Biodegradation is not applicable to inorganic substances.

### Bioaccumulation potential

: Not expected to bioaccumulate.  
See the following data for ingredient information.

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<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Zinc sulphate, monohydrate (CAS 7446-19-7)	Log P(oct) = -0.7 (estimated)	N/Ap

**Mobility in soil** : There is no data available for this product.

**Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



### SECTION 13. DISPOSAL CONSIDERATIONS

**Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.

**Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.

**RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	
<b>49CFR/DOT Additional information</b>	None.				
TDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Sulphate Monohydrate)	9	III	
<b>TDG Additional information</b>	May be shipped as Limited Quantity when transported in containers no larger than 5.0 kg; in packages not exceeding 30 kg gross mass. Under the TDG, refer to Section 1.17 for additional exemption requirements, if shipping under this exemption. This product contains marine pollutants. The 'Environmentally hazardous' mark must appear on packagings holding more than 5 kg of the material. This material may be shipped as an exempted marine pollutant in accordance with TDG Section 1.45.1 and Special Provision 99.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance meets the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

: This information is not available.

### SECTION 15 - REGULATORY INFORMATION

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



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<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Zinc sulphate, monohydrate	7446-19-7	NL	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Immediate (Acute) health hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Zinc sulphate, monohydrate	7446-19-7	No	N/Ap	No	No	No	No	No	No

### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECS	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Zinc sulphate, monohydrate	7446-19-7	231-793-3 (anhydrous )	Present	Present	(1)-542 (anhydrous)	KE-35582 (anhydrous)	Present	HSR003733

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- AICS: Australian Inventory of Chemical Substances
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations
- CSA: Canadian Standards Association
- EC50: Effective Concentration 50%.
- EINECS: European Inventory of Existing Commercial chemical Substances
- ENCS: Existing and New Chemical Substances
- EPA: Environmental Protection Agency
- IECSC: Inventory of Existing Chemical Substances
- Inh: Inhalation

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IOC: Inventory of Chemicals  
KECI: Korean Existing Chemicals Inventory  
KECL: Korean Existing Chemicals List  
LC: Lethal Concentration  
LD: Lethal Dose  
MA: Massachusetts  
MN: Minnesota  
N/Ap: Not Applicable  
N/Av: Not Available  
NIOSH: National Institute of Occupational Safety and Health  
NJ: New Jersey  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PA: Pennsylvania  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RCRA: Resource Conservation and Recovery Act  
RI: Rhode Island  
SARA: Superfund Amendments and Reauthorization Act  
SDS: Safety Data Sheet / MSDS: Material Safety Data Sheet  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TSCA: Toxic Substance Control Act  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

### References

- 1. ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2015)
- 2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2016 (Chempendium, RTECs, HSDB, INCHEM).
- 3. European Chemicals Agency, Classification Legislation, 2016.
- 4. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.
- 5. US EPA Title III List of Lists: March2015 Version
- 6. California Proposition 65 List: May20, 2016 Version
- 7. Safety Data Sheet from manufacturer.

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### Other special considerations for handling

: Provide adequate information, instruction and training for operators.

<p><b>Prepared for:</b> Direct all enquiries to: Plant Products, Inc. 50 Hazelton Street PO BOX 33 Leamington, ON, Canada N8H 3W1</p>	 <p><b>PLANTPRODUCTS®</b></p>
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### **DISCLAIMER**

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