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| Section 1 Identification of the mixture and of the company | |
| 1.1 Product identifier | |
| Product name | Helicovex® |
| Synonyms | Bolldex, Verpavex |
| 1.2 Relevant identified uses of the mixture and uses advised against | |
| Use of the product | Biological insecticide |
| Uses advised against | |
| 1.3 Details of the supplier of the Safety Data Sheet | |
| Supplier | Andermatt Biocontrol AG |
| Address | Stahlermatten 6 6146 Grossdietwil |
| Phone (technical) | +41 (0)62 917 5125 |
| E-mail | contact@andermttbiocontrol.com |
| 1.4 Emergency telephone number | |
| Phone (medical) | +41 (0)44 251 5151 (Swiss Toxicology Centre) |
| Section 2 Hazards identification | |
| 2.1 Classification of the mixture | Classification according to Regulation (EC) No 1272/2008 [CLP] No hazardous components. |
| 2.2 Label elements | Store locked up. Keep out of the reach of children Do not breathe vapours. Avoid contact with skin. To avoid risks to human health and the environment, comply with the instructions for use. Contains <i>Helicoverpa armigera</i> nucleopolyhedrovirus. May produce an allergic reaction. |
| 2.3 Other hazards | This mixture does not contain any substances, which are persistent, bioaccumulative and toxic (PBT). This mixture does not contain any substances which are very persistent and very bioaccumulative (vPvB). |
| Section 3 Composition/information on ingredients | |
| 3.1 Substances | |
| | This product is a mixture |
| 3.2 Mixtures | <i>Helicoverpa armigera</i> nucleopolyhedrovirus No hazardous component according to Regulation (EC) No 1272/2008 [CLP] |
| Section 4 First aid measures | |
| 4.1 Description of first aid measures | |
| General notes | If medical advice is needed, have product container or label at hand. Change any contaminated or wetted clothing at once. If poisoning occurs contact a doctor or Swiss Toxicology Centre. |
| Following inhalation | Only possible by exposure to HOT product. Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Seek medical advice after significant exposure. Symptomatic treatment is advised. |
| Following skin contact | Remove contaminated clothing. Seek medical advice if irritation |

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| Following eye contact | develops. Launder clothes before reuse. After contact with skin, wash immediately with plenty of water. Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if irritation develops. |
| Following ingestion | No typical symptoms and affects known |
| Advice to physician | Symptomatic treatment |

4.2 Most important symptoms and effects, both acute and delayed

No typical symptoms and effects known.

4.3 Indication of any immediate medical attention and special treatment needed

None

Section 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water mist, alcohol resistant foam, carbon dioxide, dry powder

Unsuitable extinguishing media Water-jet, foam

5.2 Special hazards arising from the mixture

Vapours cause coughing
At elevated temperatures (> 200°C), there is a risk of exothermic polymerization. At temperatures > 280°C, acrolein may be formed.

5.3 Advice for firefighters

Avoid contact with oxidizing agents. Cool closed containers with water.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use protective clothing. Do not inhale.

6.2 Environmental precautions

Prevent entry into drains, waters, sewages etc. of the product; contact immediately the municipal technical management if the product enters such bodies.

6.3 Methods and material for containment and cleaning up

Use adsorbent material to collect spillage (e.g. sawdust, peat, chemical binder). Place contaminated adsorbent in closable containers. Use a damp cloth to clean floors and other objects after removal of contaminated adsorbent. Also place used cleaning materials into closable receptacles.

6.4 Reference to other sections

See personal protective equipment under Section 8 of SDS.

Section 7 Handling and storage

7.1 Precautions for safe handling

The usual precautions for handling chemicals should be observed

7.2 Conditions for safe storage, including any incompatibilities

Store in original package only. Stored in the refrigerator (< 5°C) for two years. Stored at -18°C for years without any loss of activity.

7.3 Specific end use(s)

Biological Insecticide

Section 8 Exposure controls/personal protection

8.1 Control parameters

The usual precautionary measures for handling chemicals should be observed

8.2 Exposure controls

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|------------------------|-----------------------------|
| Eye/face protection | No specific recommendations |
| Skin protection | Use protective clothing |
| Respiratory protection | No specific recommendations |
| Thermal hazards | No specific recommendations |
| Other information | None |

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

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| Physical state | Liquid (20°C) |
| Colour | Grey-brown |
| Odour | Characteristic |
| Odour threshold | Not determined |
| pH | 6-7 |
| Melting point/freezing point | Not determined (is not freezing at -18°C) |
| Initial boiling point and boiling range | 105 - 290°C |
| Flash point | Not determinable up to 101°C |
| Evaporation rate | Not determined |
| Flammability | Not flammable |
| Upper/lower flammability or explosive limits | Not flammable |
| Vapour pressure | Not determined |
| Vapour density | Not relevant |
| Relative density | 1.16 (g/ml) |
| Solubility(ies) | Soluble in water |
| Partition coefficient: n-cotanol/water | Not determined |
| Auto-ignition temperature | Not determined |
| Decomposition temperature | >200°C |
| Viscosity | 690 mPa × s (at 50 RPM, 20°C) |
| Explosive properties | Non explosive |
| Oxidising properties | Non oxidizing |

9.2 Other information

None

Section 10 Stability and Reactivity

10.1 Reactivity

Not reactive

10.2 Chemical stability

No decomposition if stored and handled properly

10.3 Possibility of hazardous reactions

Not relevant

10.4 Conditions to avoid

Temperature >200°C (polymerization, decomposition)

10.5 Incompatible materials

Avoid contact with oxidizing agents

10.6 Hazardous decomposition products

Acrolein (>280°C)

Section 11 Toxicological information

11.1 Information on toxicological effects

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| Acute toxicity | Rat, oral, 5 × 10 ⁹ granules /kg BW (AcNPV), no adverse effects |
| Skin corrosion/irritation | Rabbit, contact, 0.5 mL/animal (2.2 × 10 ¹³ granula of CpGV/L) for 4 h, no adverse effect |
| Serious eye damage/irritation | Rabbit, contact, 0.1 mL/eye (2.2 × 10 ¹³ granula of CpGV/L) for 24 h, non-irritating |
| Respiratory or skin sensitization | Guinea pig, inhalation, 35 mg CpGV (7 × 10 ⁸ granules) per m ³ for 15 min, no adverse effects |
| Germ cell mutagenicity | Not determined |
| Carcinogenicity | Not classified |
| Reproductive toxicity | Not classified |
| STOT-single exposure | Not existing |
| STOT-repeated exposure | Not existing |
| Aspiration hazard | Not relevant |

Section 12 Ecological information

12.1 Toxicity

Acute (short-term) toxicity

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| Fish | <i>Oncorhynchus mykiss</i> , 96 hour LC ₅₀ > 100 mg/L = 2.0 × 10 ⁹ CpGV/L |
| Crustacea | <i>Daphnia magna</i> , 48 hour LC ₅₀ > 100 mg/L = 2.0 × 10 ⁹ CpGV/L |
| Algae/aquatic plants | <i>Scenedesmus subspicatus</i> , 72 hour EC ₅₀ > 100 mg/L = 2.0 × 10 ⁹ CpGV/L |
| Other organisms | <i>Lemna gibba</i> , 7 day EC ₅₀ > 100 mg/L = 3.1 × 10 ⁹ CpGV/L |

Chronic (long-term) toxicity

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|----------------------|----------------|
| Fish | Not determined |
| Crustacea | Not determined |
| Algae/aquatic plants | Not determined |
| Other organisms | Not determined |

12.2 Persistence and degradability

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| Abiotic Degradation | pH |
| Physical- and photo-chemical elimination | UV light |
| Biodegradation | Soil microflora |

12.3 Bioaccumulative potential

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| Octanol/water partition coefficient (K _{ow}) | Not determined |
| Bioconcentration factor (BCF) | Not determined |

12.4 Mobility in soil

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| Known or predicted distribution to environmental compartments | HearNPV persists in the soil for a fairly long period in the immobilised state and does not accumulate. |
| Surface tension | Not determined |
| Adsorption/Desorption | Not determined |

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

None

12.7 Additional information

None

Section 13 Disposal considerations

13.1 Waste treatment methods

Product/Packaging disposal Use pressure rinsing devices or triple rinsing with water to reduce any product residues in the container to insignificant levels. Don't dispose product or containers on ponds, rivers or ditches. Don't re-use containers for other purposes. Waste disposal and recycling contractors will take cleaned containers.

Waste resulting from the use of the product must be disposed on site or on an approved waste disposal facility. Empty the sprayer out in the field being treated by spraying out on to a relatively pest free part of the field left unsprayed or under-dosed for the crop.

Waste codes/waste designations according to LoW Not applicable

Waste treatment-relevant information None

Sewage disposal-relevant information Waste should not be disposed of by release to sewers

Other disposal recommendations None

Section 14 Transport Information

Inland transport Not restricted

Sea transport Not restricted

Air transport Not restricted

Section 15 Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the mixture

Authorisations Not relevant

Restrictions on use Not relevant

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

Section 16 Other information

This information only concerns the above-mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

i Indication of changes

Adapted to the regulation (EC) No. 1272/2008 [CLP]

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