



Dissolvine[®] E-Fe-13

Dissolvine[®] E-Fe-13 is a product developed for usage on iron deficient soils with acid (to neutral) pH, for iron deficient crops through foliar application and in hydroponic systems. Foliar application is recommended when the soil is neutral to alkaline or when soil application is impossible for other reasons. For other applications and products please ask for our other Akzo Nobel Micronutrients products.

Dissolvine[®] E-Fe-13 contains 133 grams iron per kg of product as **Fe-sodium-EDTA** derived from ethylenediaminetetraacetic acid.

Crops and Soils Susceptible to Iron Deficiency

Horticultural crops, particularly perennials, and fruit crops are most commonly susceptible to iron deficiency. This is of commercial importance in fruit trees like apple, pear, apricot, cherry, plum, lemon, orange, lime and mandarin; in berries like strawberry and grape, and in vegetables like tomato, cucumber and bean. Other crops susceptible to iron deficiency include roses, ornamentals and arable crops such as cotton, cereals and soybean. Iron has to be applied to most high productive crops under arid and semi-arid conditions and always in green houses and soilless media for productive and economic growth.

Soils susceptible to iron deficiency are primarily alkaline and calcareous. These soils may be rich in iron but most of it is not available to the plants. Other soils poor in iron and where iron deficiencies might occur are highly leached soils and soils in areas with a low level of iron in the mother material.

Effects and Symptoms of Iron Deficiency

Iron deficiency starts with interveinal yellowing. The deficiencies of Fe and Mg (magnesium) are somewhat similar as both are characterized by a failure in chlorophyll production. Iron deficiency, however, unlike Mg deficiency always begins to show in the younger leaves. Mn (manganese) deficiency, on the other hand, demonstrates a more spotted appearance of yellow/white spots against the green leaf color.

These are the most frequent symptoms of iron (Fe) deficiency:

- ☼ Chlorosis, yellowish spots on leaves, spreading until the leaf becomes almost white.
- ☼ Premature leaf fall.
- ☼ Reduced production of new fruit bearing branches.
- ☼ Small, woody textured, flavorless fruit.
- ☼ Die back of new growth.
- ☼ Stunting.

Directions for Use

Dissolvine[®] E-Fe-13 is meant for application to plants, as a solution in water.

Dissolvine[®] E-Fe-13 is photodegradable: it has to be mixed with the soil during or immediately after application.

Application of the Product

The product can be applied by foliar feeding or by soil application and in hydroponic systems.

A. Soil Application

Soil application is only recommended when soil pH is below 6.5. Apply it dissolved in water to the soil close to the plants or trunks. After each application water carefully to enhance nutrient uptake. Application must be made in a way that ensures the solution to reach the roots.

B. Foliar Application

Foliar feeding provides a rapid response and is recommended when fast correction is necessary or soil application is expensive and impractical, or impossible, for example if the soil is extremely wet. Repeated applications are usually necessary. For improving leaf coverage it is advisable to add a wetting agent, efficacy may be further increased by adding urea.

Dissolve the product to a suitable concentration, and apply with spraying equipment. The pH of final concentration should be lower than 6.5, the final EC lower than 1. Dose rates for a specific crop should be tested first on a small scale.

Preventive treatment is made at the beginning of the growing season, when leaves are emerging. Curative treatment should be made upon early signs of chlorosis induced by iron deficiency. To reduce the risk of leaf scorching avoid application during hot, sunny days. Do not apply when crop is in bloom.

C. Hydroponics

Dissolvine® E-Fe-13 is applied in hydroponic systems when the pH in the slab is below 6. Usually Fe-DTPA is a better choice since the pH in the system can rise easily, especially during strong growth periods. Consult us for dose rates.

Compatibility

The product can be mixed with most other fertilizers and agrochemicals without inactivation, precipitation or scorching problems. Do not mix with chemicals based on copper or zinc. With liquid fertilizers use the mixture without delay. Chelates are sensitive to daylight.

Mixing

Add the required amount of product to a half filled sprayer tank, then complete the filling process. Ensure that sprayer nozzles are adequate for 200-1000 liters water/ha. Use the higher volume under dry conditions, when treating larger crops and at dense foliage.

Precautions

- √ Store in original container, keep tightly closed and store in cool dry place.
 - √ Store away from children, pets, livestock and foodstuff.
 - √ Wash hands after application and before meals.
- No health hazards are involved in normal handling of **Dissolvine® E-Fe-13** but it is advisable to follow the above precautions.

Packing

The product is packed 25 kg net in cardboard boxes with an inside polyethylene bag. Shelf life of the product is more than 3 years.

Dose Rates

The following dosages can be used as guidance. Always adapt to the crop and cultivar involved and to the local circumstances.

A. Glass house Crops:

<u>Crop</u>	<u>Deficient soil / compost</u>	<u>Foliar application</u>
	For every watering	1-2 weeks interval
Vegetables	15-25 g/1000 l	0.1-0.5 g/l
Cut flowers	15-40 g/1000 l	0.1-0.5 g/l
Potted flowers, pot plants	8 g/1000 l	0.1-0.4 g/l

*) For the dose rate of a 1m³ tank, 100 times concentrated: multiply the amount of grams mentioned with 100.

B. Arable Crops and Open Field Horticultural Crops:

<u>Soil application, arable crops</u>	2.5 kg/ha	Apply pre-drilling or pre-planting to bare soil in a convenient volume of water, cultivate after spraying.
<u>Soil application, horticultural crops</u>	2.5-25 kg/ha	Apply through the watering system. Use enough water to wet the top 10 cm of the soil. Use clean water immediately afterwards to wash the iron chelate from the foliage. Or use the last 5 minutes the foliar application rate.
<u>Foliar application</u>	0.5-1 kg/ha	Apply in a water volume that gives adequate coverage of the crop (200-1000 L). Do not exceed a concentration of 0.1%.

1 kg/ha = 0.9 lbs/acre

1 g/l = 0.13 oz/gal

Main characteristics

- Solubility in water: 90 g/l (20 °C)
- EC (1 g/l): 0.16 mS/cm
- Chloride free