1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Dissolvine® E-FE-13

Synonyms: Ferric sodium EDTA; CHEMICAL NAME: Ethyldiaminetetraacetic acid, ferric sodium complex

Formula: C10H12FeN2O8Na.3H2O

Recommended use: Chelating agent; Plant nutrient

Manufacturer: PeroxyChem LLC
1735 Market Street
Philadelphia, PA 19103
Phone: +1 215/ 299-5858 (General Information)
E-Mail: sdsinfo@peroxychem.com

Emergency telephone number
For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
1 303/ 389-1409 (Medical - U.S. - Call Collect)

Medical / Handling Emergencies:
1 914 / 693-6946 (Akzo Nobel - U.S.A.)

2. HAZARDS IDENTIFICATION

Emergency Overview
Yellow-green odorless powder
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard.

Potential health effects

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Product dust may cause mechanical eye irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Substance may cause slight skin irritation.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Inhalation of dust in high concentration may cause irritation of respiratory system.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No known effect based on information supplied.</td>
</tr>
</tbody>
</table>

Chronic Toxicity
In a 31/61-day oral study on rats with Ferric-sodium EDTA, the NOAEL \(\geq 84\) mg/kg.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA ferric sodium complex</td>
<td>15708-41-5</td>
<td>87-89</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>11-13</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

**Eye contact**
In case of eye contact, remove contact lenses and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation persists.

**Skin contact**
Wash off with warm water and soap. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.

**Inhalation**
Move to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

**Ingestion**
Rinse mouth with water and afterwards drink plenty of water or milk. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

5. FIRE-FIGHTING MEASURES

**Flammable properties**
Not combustible.

**Suitable extinguishing media**
Use CO2, dry chemical, or foam. Soft stream or water fog only if necessary.

**Explosion Data**
- Sensitivity to Mechanical Impact: Not sensitive
- Sensitivity to Static Discharge: Not sensitive

**Specific hazards arising from the chemical**
Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus and full protective gear.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazard</th>
<th>Flammability</th>
<th>Stability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Avoid contact with the skin and the eyes. Powder becomes slippery when wet. For personal protection see section 8.

**Methods for containment**
Cover with plastic sheet to prevent spreading. Do not allow material to enter storm or sanitary sewer system. Use a wet sweeping compound or water to prevent dust formation. Sweep or vacuum up spillage and return to container. Material may be recycled when contamination is not a problem.

**Methods for cleaning up**
After cleaning, flush away traces with water. Dispose of waste as indicated in Section 13.
7. HANDLING AND STORAGE

Handling

Avoid dust formation. Use in well ventilated areas to prevent formation of explosive dust-air mixtures. Avoid inhalation and prolonged and/or repeated skin and eye contact.

Storage

Keep tightly closed in a dry and cool place. Containers should not be opened until ready to use. Store in original container. Keep at temperatures below 25°C. Keep away from incompatible materials (see Section 10).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>British Columbia</th>
<th>Quebec</th>
<th>Ontario TWAEV</th>
<th>Alberta</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA ferric sodium complex <strong>15708-41-5</strong></td>
<td>TWA: 1 mg/m³</td>
<td>TWA: 1.0 mg/m³</td>
<td>TWA: 1 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
</tbody>
</table>

Occupational exposure controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Respiratory protection

Whenever dust in the worker's breathing zone cannot be controlled with ventilation or other engineering means, workers should wear respirators or dust masks approved by NIOSH/MSHA, EU CEN or comparable organization to protect against airborne dust.

Eye/face protection

Tightly fitting safety goggles

Skin and body protection

Protective shoes or boots Wear suitable protective clothing

Hand protection

Protective gloves: Nitrile rubber.

Hygiene measures

When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow to green Powder</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>pH (1% solution)</td>
<td>4 - 5.5</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>80 °C (crystal water loss)</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammable properties</td>
<td>Not combustible</td>
</tr>
<tr>
<td>Density</td>
<td>0.95 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>90 g/L @ 20 °C; 300 g/L @ 80 °C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>log Pow = &lt;1</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>&gt; 200 °C</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability

Stable under recommended storage conditions.
**Conditions to avoid**
Temperatures above 25°C. Very hygroscopic; protect from moisture.

**Hazardous decomposition products**
Thermal decomposition can lead to release of irritating and toxic gases and vapors: nitrogen oxides (NOx), Carbon oxides, metal oxides.

**Hazardous polymerization**
Hazardous polymerization does not occur.

### 11. TOXICOLOGICAL INFORMATION

#### Acute effects
- **Eye irritation**: Non-irritating.
- **Skin irritation**: Non-irritating to the skin.

#### LD50 Oral
- > 2000 mg/kg bw (Rat)

#### LD50 Dermal
- > 2000 mg/kg bw (Rat)

#### LC50 Inhalation
- > 2.75 mg/L (4-hr)

**Sensitization**
Did not cause sensitization on laboratory animals.

**Chronic Toxicity**
In a 31/61-day oral study on rats with Ferric-sodium EDTA, the NOAEL \( \geq 84 \) mg/kg.

**Carcinogenicity**
Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).

**Mutagenicity**
Not mutagenic in Ames Test. Ferric sodium EDTA gave a positive response in the Mouse Lymphoma Assay (in vitro) with and without metabolic activation at concentrations that were cytotoxic. The positive response was attributed to a possible sensitivity of the cells to abnormal iron concentrations.

**Reproductive Toxicity**
EDTA and its sodium salts have been reported, in some studies, to cause birth defects in laboratory animals only at exaggerated doses that were toxic to the mother. These effects are likely associated with zinc deficiency due to chelation. Exposures having no effect on the mother should have no effect on the fetus. Based on data with a related substance (magnesium-disodium EDTA), the NOAEL is expected to be 500 mg/kg.

**Target Organ Effects**
Skin, Eyes.
12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric Sodium EDTA</td>
<td>96 h LC50</td>
<td>Rainbow trout</td>
<td>&gt;100</td>
<td>mg/L</td>
</tr>
<tr>
<td>Ferric Sodium EDTA</td>
<td>35 d NOEC</td>
<td>Zebra fish</td>
<td>28.9</td>
<td>mg/L</td>
</tr>
<tr>
<td>Ferric Sodium EDTA</td>
<td>48 h EC50</td>
<td>Daphnia magna</td>
<td>100.9</td>
<td>mg/L</td>
</tr>
<tr>
<td>Ferric Sodium EDTA</td>
<td>21 d NOEC</td>
<td>Daphnia magna</td>
<td>31</td>
<td>mg/L</td>
</tr>
<tr>
<td>Ferric Sodium EDTA</td>
<td>72 h NOEC</td>
<td>Algae</td>
<td>69.9</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

Persistence and degradability
Inherently biodegradable. EDTA ferric-sodium complex is photodegradable with a half life of 20 days.

Bioaccumulation
Bioaccumulation is unlikely.

Mobility
Will likely be mobile in the environment due to its water solubility. C.O.D. is approximately 570 mg/g.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Cleaning the container before final disposal is the responsibility of the person disposing of the container. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT                        | not regulated
TDG                        | not regulated
ICAO/IATA                  | not regulated
IMDG/IMO                   | not regulated

15. REGULATORY INFORMATION

International Inventories
| TSCA (United States) | Complies |
| DSL (Canada)         | Complies |
| DSL (Canada)         | Complies |
| EINECS/ELINCS (Europe)| Complies |
| ENCS (Japan)         | -        |
| China (IECSC)        | Complies |
| KECL (Korea)         | Complies |
| PICCS (Philippines)  | Complies |
AICS (Australia)  Complies
NZIoC (New Zealand) Complies

**U.S. Federal Regulations**

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**
- Acute Health Hazard: No
- Chronic Health Hazard: No
- Fire Hazard: No
- Sudden Release of Pressure Hazard: No
- Reactive Hazard: No

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**International Regulations**

**Mexico - Grade**
Slight risk, Grade 1

**Canada**
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**
Non-controlled

### 16. OTHER INFORMATION

<table>
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<tr>
<th>HMIS</th>
<th>Health hazard</th>
<th>Flammability</th>
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**Revision Date:** 2014-06-25
**Reason for revision:** Initial Release.

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**Prepared By:** PeroxyChem
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End of Safety Data Sheet