1. Identification

Product identifier: Brandt Sequestar 13.2% Fe

Other means of identification: Not available.

Synonym(s): [[Ethylenedinitrilo]tetraacetato]ferrate(1-), Sodium * EDTA, IRON (III) SODIUM * MONOSODIUM FERRIC EDTA * SODIUM FERRIC ETHYLENEDIAMINETETRAACETATE (EDTA)

Recommended use: Agriculture - Chelated Micronutrient - Refer to product label for application instructions

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name: Brandt Consolidated, Inc.
Address: 2935 South Koke Mill Road
Springfield, IL 62711 US
Telephone: 1-217-547-5800
Website: www.brandt.co
E-mail: msds@brandt.co
Contact person: EH&S / Regulatory Department
Emergency phone number: CHEMTREC (24 hours): 1-800-424-3900

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards: Not classified.
OSHA defined hazards: Not classified.

Label elements

Hazard symbol: None.
Signal word: None.
Hazard statement: The mixture does not meet the criteria for classification.

Precautionary statement

Prevention: Observe good industrial hygiene practices.
Response: Wash hands after handling.
Storage: Store away from incompatible materials.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): Not classified.

Environmental hazards

Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3

Supplemental information

Hazard statement: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention: Avoid release to the environment.

3. Composition/information on ingredients

Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric EDTA, Sodium Salt</td>
<td></td>
<td>15708-41-5</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.
4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**
Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**
Direct contact with eyes may cause temporary irritation.

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically.

**General information**
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire-fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Move container from fire area if it can be done without risk.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. Following product recovery, flush area with water.

**Methods and materials for containment and cleaning up**
Stop the flow of material, if this is without risk.

Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.

**Environmental precautions**
Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

**Precautions for safe handling**
Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains.

**Conditions for safe storage, including any incompatibilities**
Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure controls/personal protection

**Occupational exposure limits**
No exposure limits noted for ingredient(s).

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Wear safety glasses with side shields (or goggles).

**Skin protection**

**Hand protection**
For prolonged or repeated skin contact use suitable protective gloves.
Other
- Wear suitable protective clothing.

Respiratory protection
- In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards
- Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
- Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
  Physical state: Liquid.
  Form: Liquid.
  Color: Yellow to Brown

Odor
- Odorless.

pH
- 4.5 - 5.5

Salt-Out / Crystallization Temp
- Not available.

Melting point/freezing point
- Not available.

Initial boiling point and boiling range
- Not available.

Flash point
- Not available.

Evaporation rate
- Not available.

Flammability (solid, gas)
- Not available.

Upper/lower flammability or explosive limits
  Flammability limit - lower (%)
  Flammability limit - upper (%)
  Explosive limit - lower (%)
  Explosive limit - upper (%)
- Not available.

Vapor pressure: < 0 hPa

Vapor density
- Not available.

Relative density
- 1.78 (OECD Guideline 109)

Solubility(ies)
- 72 g/l @ 68 degrees F

Partition coefficient (n-octanol/water)
- -8.8 (calculated) The data refers to the undissociated form of the substance.

Auto-ignition temperature
- Not available.

Decomposition temperature
- > 411.8 °F (> 211 °C) (OECD Guideline 102)

Viscosity
- Not available.

Other information
  Density
  pH in aqueous solution
- 1.78 g/cm³ (OECD Guideline 109)
- 4.5 - 5.5 2% Solution

10. Stability and reactivity

Reactivity
- The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
- Material is stable under normal conditions.

Possibility of hazardous reactions
- No dangerous reaction known under conditions of normal use.

Conditions to avoid
- Avoid temperatures exceeding the decomposition temperature.

Incompatible materials
- Strong oxidizing agents.

Hazardous decomposition products
- No hazardous decomposition products are known.
11. Toxicological information

Information on likely routes of exposure

**Ingestion**  
Due to lack of data the classification is not possible.

**Inhalation**  
Due to lack of data the classification is not possible.

**Skin contact**  
Due to lack of data the classification is not possible.

**Eye contact**  
Due to lack of data the classification is not possible.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

**Acute toxicity**  
Not available.

**Skin corrosion/irritation**  
Due to lack of data the classification is not possible.

**Serious eye damage/eye irritation**  
Due to lack of data the classification is not possible.

**Respiratory sensitization**  
Due to lack of data the classification is not possible.

**Skin sensitization**  
Due to lack of data the classification is not possible.

**Germ cell mutagenicity**  
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**  
Due to lack of data the classification is not possible.

**Reproductive toxicity**  
Due to lack of data the classification is not possible.

**Specific target organ toxicity - single exposure**  
Due to lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure**  
Due to lack of data the classification is not possible.

**Aspiration hazard**  
Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity

Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandt Sequestar 13.2% Fe (CAS 15708-41-5)</td>
<td>Fish</td>
<td>LC50 Fish 100 mg/l, 96 hours, estimated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric EDTA, Sodium Salt (CAS 15708-41-5)</td>
<td>Aquatic</td>
<td>LC50 Fathead minnow (Pimephales promelas) 100 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**  
No data is available on the degradability of this product.

**Bioaccumulative potential**  
Not available.

**Partition coefficient n-octanol / water (log Kow)**  
Brandt Sequestar 13.2% Fe  
-8.84 (calculated) The data refers to the undissociated form of the substance.

**Mobility in soil**  
Not available.

**Other adverse effects**  
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazardous waste code**  
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**  
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

SARA 304 Emergency release notification
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
No

SARA 311/312 Hazardous chemical
No

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number
Not listed.

Food and Drug Administration (FDA)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List
Not regulated.

US. New Jersey Worker and Community Right-to-Know Act
Not regulated.

US. Pennsylvania RTK - Hazardous Substances
Not regulated.

US. Rhode Island RTK
Not regulated.

US. California Proposition 65
WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)*</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

**Issue date**
05-03-2013

**Version #**
01

**Further information**
Not available.

**Disclaimer**
While the information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or information set forth, or that the products, or information may be used without infringing the intellectual property rights of others. In no case shall the information provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the information furnished by our company hereunder are given gratis and we assume no obligation or liability for the information given or results obtained, all such being given and accepted at your risk.