1. PRODUCT AND COMPANY IDENTIFICATION

Product Name  
Iron, Electrolytic Powder

Cat No. :  
I60-3; I60-500

Synonyms  
No information available

Recommended Use  
Laboratory chemicals

Company  
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number  
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. HAZARDS IDENTIFICATION

DANGER

Emergency Overview
Flammable solid. May cause skin, eye, and respiratory tract irritation.

Appearance  
Grey

Physical State  
Powder Solid

Odor  
Odorless

Target Organs  
No information available

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes  
May cause irritation.

Skin  
May cause irritation.

Inhalation  
May cause irritation of respiratory tract. May be harmful if inhaled.

Ingestion  
May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects
Tumorigenic effects have been reported in experimental animals

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions  
No information available.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron, powder</td>
<td>7439-89-6</td>
<td>&gt; 95</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms occur.

Ingestion
Do not induce vomiting. Get medical attention if symptoms occur.

Notes to Physician
Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flash Point
No information available
Method -
No information available

Autoignition Temperature
No information available
Explosion Limits
Upper
No data available
Lower
No data available

Suitable Extinguishing Media
Use: Dry sand, approved class D extinguishers.

Unsuitable Extinguishing Media
DO NOT USE WATER, FOAM OR CO2

Hazardous Combustion Products
No information available.

Sensitivity to Mechanical Impact
No information available

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Flammable. Risk of ignition. Dust can form an explosive mixture in air. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA Health 1 Flammability 3 Instability 1 Physical hazards N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Avoid release to the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Remove all sources of ignition. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Use spark-proof tools and explosion-proof equipment.
7. HANDLING AND STORAGE

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Powder Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Grey</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No information available</td>
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<tr>
<td>Viscosity</td>
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</tr>
<tr>
<td>Boiling Point/Range</td>
<td>3000 °C / 5432 °F</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>1535 °C / 2795 °F</td>
</tr>
<tr>
<td>Decomposition</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
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<tr>
<td>Evaporation Rate</td>
<td>negligible</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
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<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
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<tr>
<td>log Pow</td>
<td>No data available</td>
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<tr>
<td>Molecular Weight</td>
<td>55.84</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Fe</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Moisture sensitive.

Conditions to Avoid
Incompatible Materials: Strong oxidizing agents, Acids, Fluorine, halogenated agents, Halogens, oxygen, nitriles, Aldehydes

Hazardous Decomposition Products: Hydrogen

Hazardous Polymerization: Hazardous polymerization does not occur.

Hazardous Reactions: None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information: See actual entry in RTECS for complete information.

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
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</thead>
<tbody>
<tr>
<td>Iron, powder</td>
<td>30 g/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Irritation: No information available

Toxicologically Synergistic Products: No information available

Chronic Toxicity

Carcinogenicity: There are no known carcinogenic chemicals in this product.

Sensitization: No information available

Mutagenic Effects: No information available

Reproductive Effects: No information available.

Developmental Effects: No information available.

Teratogenicity: No information available.

Other Adverse Effects: Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information.

Endocrine Disruptor Information: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron, powder</td>
<td>Not listed</td>
<td>13.6 mg/L LC50 96 h</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Persistence and Degradability: No information available.

Bioaccumulation/ Accumulation: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
14. TRANSPORT INFORMATION

DOT
UN-No: UN3089
Proper Shipping Name: METAL POWDERS, FLAMMABLE, N.O.S.
Proper technical name: IRON POWDER
Hazard Class: 4.1
Packing Group: III

TDG
UN-No: UN3089
Proper Shipping Name: METAL POWDERS, FLAMMABLE, N.O.S.
Hazard Class: 4.1
Packing Group: III

IATA
UN-No: UN3089
Proper Shipping Name: METAL POWDER, FLAMMABLE, N.O.S.
Hazard Class: 4.1
Packing Group: III

IMDG/IMO
UN-No: UN3089
Proper Shipping Name: METAL POWDER, FLAMMABLE, N.O.S.
Hazard Class: 4.1
Packing Group: III

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron, powder</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-096-4</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.
U.S. Federal Regulations

TSCA 12(b)  Not applicable

SARA 313  
Not applicable

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td></td>
</tr>
</tbody>
</table>

Clean Water Act  
Not applicable

Clean Air Act  
Not applicable

OSHA Occupational Safety and Health Administration  
Not applicable

CERCLA  
Not applicable

California Proposition 65  
This product does not contain any Proposition 65 chemicals

State Right-to-Know  
Not applicable

U.S. Department of Transportation

<table>
<thead>
<tr>
<th>Type</th>
<th>N</th>
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<tbody>
<tr>
<td>Reportable Quantity (RQ):</td>
<td></td>
</tr>
<tr>
<td>DOT Marine Pollutant</td>
<td></td>
</tr>
<tr>
<td>DOT Severe Marine Pollutant</td>
<td></td>
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</tbody>
</table>

U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade  
No information available

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

B4  Flammable solid
16. OTHER INFORMATION

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
12-Nov-2009

Print Date
27-Jun-2014

Revision Summary
"***", and red text indicates revision

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS