
1. PRODUCT AND COMPANY IDENTIFICATION**1.1 Product identifiers**

Product name : Ferox PRB zero valent iron powder

Brand : Hepure

CAS-No. : 7439-89-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Environmental remediation, water treatment, various

1.3 Details of the supplier of the safety data sheetCompany : Hepure Technologies, Inc.
63 Main Street, Suite 203B
Flemington, NJ 08822

Telephone : 877-727-4776

1.4 Emergency telephone number

Emergency Phone # : Chemtrec 800-424-9300 CCN234339

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Not classified as hazardous

2.2 GHS Label elements, including precautionary statements

Signal Word: not applicable

Hazard Statements: not applicable

Precautionary Statements: not applicable

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Formula: Fe

Molecular Weight: 55.85 g/mol

CAS-No.: 7439-89-6

EC-No.: 231-096-4

Carbon: 2 to 2.5%

Sulfur: 0.1%

Silicon: 1 to 1.5%

Phosphorus: 0.1%

Iron: Balance

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

No data available

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use Class D or other metal extinguishing agent.

5.2 Special hazards arising from the substance or mixture

These materials, as coarse particles, are non-flammable and do not react with water or other materials used for extinguishing fire. Fine metal dust may pose a risk of fire or explosion if accumulated, mixed and confined with an ignition source. When handling fine particles generated from this material, avoid creating dust clouds and ignition sources. May release iron oxide fume if involved in a fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Store under inert gas. Moisture sensitive. Keep in a dry place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Impermeable gloves, protective work clothing as necessary.

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|--|---|
| a) Appearance | Form: powder |
| b) Odor | no data available |
| c) Odor Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | Melting point/range: 1,535 °C (2,795 °F) - lit. |
| f) Initial boiling point and boiling range | 2,750 °C (4,982 °F) - lit. |
| g) Flash point | no data available |

- | | |
|---|---|
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | not flammable as a coarse particle; fine metal dust may pose a risk of fire or explosion if accumulated, mixed and confined with an ignition source |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapor pressure | no data available |
| l) Vapor density | no data available |
| m) Relative density | 7.86 g/cm ³ at 25 °C (77 °F) |
| n) Water solubility | insoluble |
| o) Partition coefficient: n-octanol/water | no data |
| p) Auto-ignition temperature | available no |
| q) Decomposition temperature | data available |
| | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

Bulk density 2.92 gm/cm³

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Acids, Oxygen, Strong oxidizing agents, Halogens, Phosphorus

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 30,000 mg/kg

Remarks: Nutritional and Gross Metabolic: Weight loss or decreased weight

gain. Inhalation: no data available

Dermal: no data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data

available No

data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: NO4565500

Overdose of iron compounds may have a corrosive effect on the gastrointestinal mucosa and be followed by necrosis, perforation, and stricture formation. Several hours may elapse before symptoms that can include epigastric pain, diarrhea, vomiting, nausea, and hematemesis occur. After apparent recovery a person may experience metabolic acidosis, convulsions, and coma hours or days later. Further complications may develop leading to acute liver necrosis that can result in death due to hepatic coma. Long term inhalation exposure to iron (oxide fume or dust) can cause siderosis. Siderosis is considered to be a benign pneumoconiosis and does not normally cause significant physiologic impairment. Siderosis can be observed on x-rays with the lungs having a mottled appearance.

12. ECOLOGICAL INFORMATION

Non-hazardous

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

Shipping Regulations:	Not regulated
UN Number:	N/A
UN Proper Shipping Name:	N/A
Transport Hazard Class:	N/A
Packing Group:	N/A
Marine Pollutant:	No

15. REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

CAS-No.	Revision Date
7439-89-6	

Iron, Powder

New Jersey Right To Know Components

CAS-No.	Revision Date
7439-89-6	

Iron, Powder

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information

Copyright 2016 Hepure Technologies, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Hepure Technologies, Inc. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Version: 2.3 Revision Date: 6/23/2016