# Safety Data Sheet

**Hematite**

Revision date: 06.04.2020  Page 1 of 7

## 1. Identification

### Product identifier

- **Hematite**
- **Substance name:** Iron (III) oxide (hematite)
- **CAS No:** 1309-37-1

### Recommended use of the chemical and restrictions on use

- **Use of the substance/mixture:** test dust

### Details of the supplier of the safety data sheet

- **Company name:** Powder Technology Inc.
- **Street:** 1300 Grey Fox Road
- **Place:** USA-55112 Arden Hills, MN
- **Telephone:** +1 952 894 -8737
- **e-mail:** sales@powdertechnologyinc.com
- **Internet:** http://www.powdertechnologyinc.com

### Emergency phone number:

+1 952 894 -8737

## 2. Hazard(s) identification

### Classification of the chemical

**29 CFR Part 1910.1200**

This substance is not classified as hazardous in accordance with Regulation 29 CFR 1910.1200(d).

### Label elements

- **GHS label elements, including precautionary statements:** none

### Hazards not otherwise classified

No information available.

## 3. Composition/information on ingredients

### Substances

- **Chemical characterization**
  - Powder

  - **Mineral bound:** Iron (III) oxide (hematite) > 99.4 %
  - **CAS No.** 1309-37-1

## 4. First-aid measures

### Description of first aid measures

#### General information

In all cases of doubt, or when symptoms persist, seek medical advice.

#### After inhalation

Provide fresh air. In case of irregular breathing or respiratory arrest provide artificial respiration. If experiencing respiratory symptoms: Call a doctor.

#### After contact with skin

Wash with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.
After contact with eyes
Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After ingestion
Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

Most important symptoms and effects, both acute and delayed
Dust is irritating to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. Ingestion may cause severe and permanent damage to the digestive tract. May cause liver damage. Causes severe pain, nausea, vomiting, diarrhea and shock. May cause hemorrhaging of the digestive tract.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media
Carbon dioxide (CO2).

Specific hazards arising from the chemical
Non-flammable.
In case of fire: Gases/vapours, irritant; Gases/vapours, toxic.

Special protective equipment and precautions for fire-fighters
Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information
Knock down dust with water spray jet. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove persons to safety.

Environmental precautions
No special environmental measures are necessary.

Methods and material for containment and cleaning up
Take up mechanically. Treat the recovered material as prescribed in the section on waste disposal. Collect in closed containers for disposal.

Reference to other sections
Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage

Precautions for safe handling
Advice on safe handling
Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Wear personal protection equipment. Avoid contact with skin, eyes and clothes. Avoid: Generation/formation of dust
**Hematite**

**Revision date: 06.04.2020**

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**Advice on protection against fire and explosion**

Usual measures for fire prevention.

**Conditions for safe storage, including any incompatibilities**

**Requirements for storage rooms and vessels**

Keep container tightly closed.

**Hints on joint storage**

Do not store together with: Aluminium, Carbon dioxide, BF₅, calcium hypochlorite, Cs₂C₂, ethylene oxide; oxirane, hydrazine, HCOOOH (Methaneperoxoic acid).

**Further information on storage conditions**

Do not store at temperatures over: 60 °C / 140°F

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### 8. Exposure controls/personal protection

**Control parameters**

**Exposure limits**

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>1309-37-1</td>
<td>Iron oxide (Fe₂O₃) (respirable fraction)</td>
<td>5</td>
<td>10</td>
<td>TWA (8 h)</td>
<td>ACGIH-2019</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>Iron oxide dust and fume (as Fe)</td>
<td>-</td>
<td>5</td>
<td>TWA (8 h)</td>
<td>REL</td>
</tr>
<tr>
<td>1309-37-1</td>
<td>Iron oxide fume</td>
<td>-</td>
<td>10</td>
<td>TWA (8 h)</td>
<td>PEL</td>
</tr>
</tbody>
</table>

**Exposure controls**

**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

**Protective and hygiene measures**

Do not breathe dust. Avoid dust formation. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes.

**Eye/face protection**

Wear eye protection/face protection.

Suitable eye protection: Dust protection goggles.

**Hand protection**

Wear suitable gloves.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: exceeding exposure limit values. Suitable respiratory protective equipment: particulates filter device (DIN EN 143), half-mask with filter (DIN EN 149). Filtering device with filter or ventilator filtering device of type: P 2

**Environmental exposure controls**

No special environmental measures are necessary.
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>Physical state</td>
<td>Powder</td>
</tr>
<tr>
<td>Color</td>
<td>red brown - black</td>
</tr>
<tr>
<td>Odor</td>
<td>odourless</td>
</tr>
<tr>
<td>pH-Value</td>
<td>not determined</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td></td>
</tr>
<tr>
<td>The product is not: Explosive</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Upper explosion limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td></td>
</tr>
<tr>
<td>Solid</td>
<td>not determined</td>
</tr>
<tr>
<td>Gas</td>
<td>not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td></td>
</tr>
<tr>
<td>Not oxidising</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>5.24 g/cm³</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Immiscible</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>not applicable</td>
</tr>
<tr>
<td>Viscosity / kinematic</td>
<td>not applicable</td>
</tr>
<tr>
<td>Vapor density</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Other information</td>
<td>Odour threshold: not applicable</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity
No hazardous reaction when handled and stored according to provisions.

Chemical stability
Stability: Stable
The product is stable under storage at normal ambient temperatures.
Possibility of hazardous reactions

Hazardous reactions: Will not occur

No known hazardous reactions.

Conditions to avoid

heat.

Incompatible materials

Aluminium, Carbon dioxide., BF5, calcium hypochlorite, Cs2C2, ethylene oxide; oxirane, hydrazine, HCOOOH (Methaneperoxoic acid).

Hazardous decomposition products

In case of fire: Gases/vapours, irritant; Gases/vapours, toxic.

11. Toxicological information

Information on toxicological effects

Route(s) of Entry
Inhalation

Acute toxicity
Based on available data, the classification criteria are not met.

Irritation and corrosivity
Based on available data, the classification criteria are not met.

Sensitizing effects
Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - single exposure
Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met.

Carcinogenicity (OSHA): Not listed.
Carcinogenicity (IARC): Ferric oxide (CAS 1309-37-1) is listed in group 3.
Carcinogenicity (NTP): Not listed.

Aspiration hazard
Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity
The product is not: Ecotoxic.

Persistence and degradability
The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential
The product has not been tested.

Mobility in soil
The product has not been tested.

Other adverse effects
No information available.

Further information
Avoid release to the environment.
13. Disposal considerations

Waste treatment methods

Disposal recommendations
Dispose of waste according to applicable legislation.

Contaminated packaging
Wash with plenty of water. Completely emptied packages can be recycled.

14. Transport information

US DOT 49 CFR 172.101

Proper shipping name: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

UN number: No dangerous good in sense of this transport regulation.
UN proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

UN number: No dangerous good in sense of this transport regulation.
UN proper shipping name: No dangerous good in sense of this transport regulation.
Transport hazard class(es): No dangerous good in sense of this transport regulation.
Packing group: No dangerous good in sense of this transport regulation.

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user
No information available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

U.S. Regulations

National Inventory TSCA
CAS No. 1309-37-1: Yes.

State Regulations

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

Health: 1
Flammability: 0
Physical Hazard: 0
### NFPA Hazard Ratings

<table>
<thead>
<tr>
<th>Health</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
<tr>
<td>Unique Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

**Revision date:** 06.04.2020  
**Revision No:** 1.00

### Abbreviations and acronyms

- ACGIH: American Conference of Governmental Industrial Hygienists  
- CFR: Code of Federal Regulations  
- DOT: Department of Transportation  
- ICAO: International Civil Aviation Organization  
- IMDG: International Maritime Code for Dangerous Goods  
- IATA: International Air Transport Association  
- IARC: International Agency for Research on Cancer  
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
- CAS: Chemical Abstracts Service  
- NFPA: National Fire Protection Association  
- NTP: National Toxicology Program  
- OSHA: Occupational Safety and Health Administration  
- PEL: permissible exposure limit  
- REL: recommended exposure limit  
- SARA: Superfund Amendments and Reauthorization Act  
- STEL: Short-term exposure limit  
- TSCA: Toxic Substances Control Act  
- TWA: time-weighted average  
- TI: Technical Instructions  
- DGR: Dangerous Goods Regulations  
- UN: United Nations  
- ATE: Acute toxicity estimate  
- LC50: Lethal concentration, 50%  
- LD50: Lethal dose, 50%  
- LL50: Lethal loading, 50%  
- EL50: Effect loading, 50%  
- EC50: Effective Concentration 50%  
- ErC50: Effective Concentration 50%, growth rate  
- NOEC: No Observed Effect Concentration  
- BCF: Bio-concentration factor  
- MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
- IBC: Intermediate Bulk Container  
- VOC: Volatile Organic Compounds

### Other data

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.