

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 1 of 8

1. Identification

Product identifier

Iron chips and powder

Substance name: Iron, powder
CAS No: 7439-89-6

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@powdertechologyinc.com
Internet: <http://www.powdertechologyinc.com>

Emergency phone number: +1 952 894 -8737

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Flammable solids: Flam. Sol. 2
Combustible Dust: Comb. Dust

Label elements

29 CFR Part 1910.1200

Signal word: Warning

Pictograms:



Hazard statements

Flammable solid

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of fire: Use D -powder to extinguish.

Special labelling of certain mixtures

May form combustible dust concentrations in air.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

Substances

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 2 of 8

Hazardous components

CAS No	Components	Quantity
7439-89-6	Iron, powder	100 %

4. First-aid measures**Description of first aid measures****General information**

The powder is ferro-magnetic. A magnet may be used in the removal of powder residues from the eyes or on the skin. 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

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO₂), Foam, Extinguishing powder.
Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

Water.

Specific hazards arising from the chemical

Flammable. Dust can form an explosive mixture with air.
In case of fire: Metal oxide smoke, 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**

Keep away from sources of ignition - No smoking. 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.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 3 of 8

Environmental precautions

Avoid release to the environment.

Methods and material for containment and cleaning up

Take up mechanically. Take up dust-free and set down dust-free. Treat the recovered material as prescribed in the section on waste 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. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Remove persons to safety.

Advice on protection against fire and explosion

Avoid dust formation. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. May form combustible dust concentrations in air.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Strong acid. Oxidising agent. Pyrophoric or self-heating substances.

Further information on storage conditions

Protect against: Humidity, Heat.

8. Exposure controls/personal protection

Control parameters

Exposure limits

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
-	Particles (insoluble or poorly soluble) not otherwise specified (inhalable fraction)		10		TWA (8 h)	ACGIH-2019
-	Particles (insoluble or poorly soluble) not otherwise specified (respirable fraction)		3		TWA (8 h)	ACGIH-2019
-	Particulates not Otherwise regulated (PNOR) Respirable fraction	529.5 mp/m ³	5		TWA (8 h)	PEL
-	Particulates not Otherwise regulated (PNOR) Total dust	1765 mp/m ³	15		TWA (8 h)	PEL

Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

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.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 4 of 8

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

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at: Generation/formation of dust.

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Filtering device (full mask or mouthpiece) with filter: P 2 / P 3 , white

Environmental exposure controls

Avoid release to the environment.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	solid
Color:	grey
Odor:	odourless
pH-Value:	not determined

Changes in the physical state

Melting point/freezing point:	not determined
Initial boiling point and boiling range:	2861 °C
Flash point:	> 700 °C

Flammability

Solid:	not determined
Gas:	not applicable

Explosive properties

Dust explosive, Dust explosion category: ST 1

Lower explosion limits:	125 g/m ³
Upper explosion limits:	not determined
Ignition temperature:	370 °C

Auto-ignition temperature

Solid:	>700 °C
Gas:	not applicable

Decomposition temperature:	not determined
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Oxidizing properties

Not oxidising.

Vapor pressure:	not determined
Density:	7,86 g/cm ³
Water solubility:	practically insoluble

Solubility in other solvents

not determined

Partition coefficient:	not determined
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Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 5 of 8

Viscosity / dynamic: not applicable
 Viscosity / kinematic: not applicable
 Vapor density: not determined
 Evaporation rate: not determined

Other information

Solid content: 100,00 %
 Odour threshold: not applicable

10. Stability and reactivity

Reactivity

Flammable, Ignition hazard.

Chemical stability

Stability: Stable

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Hazardous reactions: May occur

Dust can form an explosive mixture with air.

Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Humidity, Heat.

Incompatible materials

Strong acid. Oxidising agent. Pyrophoric or self-heating substances.

Hazardous decomposition products

In case of fire: Metal oxide smoke, toxic.

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Inhalation, oral, Eye contact.

Acute toxicity

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

CAS No	Components				
	Exposure route	Dose	Species	Source	Method
7439-89-6	Iron, powder				
	oral	LD50 mg/kg	30000	Rat	

Irritation and corrosivity

Based on available data, the classification criteria are not met.
 Inhalation of dust may cause irritation of the respiratory system.

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.

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 6 of 8

Specific target organ toxicity (STOT) - repeated exposure

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

Carcinogenicity (OSHA): Not listed.

Carcinogenicity (IARC): Not listed.

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

Do not allow to enter into surface water or drains. 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

<u>UN/ID number:</u>	UN 3089
<u>Proper shipping name:</u>	Metal powders, flammable, n.o.s. (Iron, powder)
<u>Transport hazard class(es):</u>	4.1
<u>Packing group:</u>	II
Hazard label:	4.1

Marine transport (IMDG)

<u>UN number:</u>	UN 3089
<u>UN proper shipping name:</u>	METAL POWDER, FLAMMABLE, N.O.S. (Iron, powder)
<u>Transport hazard class(es):</u>	4.1
<u>Packing group:</u>	II
Hazard label:	4.1
Special Provisions:	-
Limited quantity:	1 kg
Excepted quantity:	E2
EmS:	F-G, S-G
Segregation group:	powdered metals

Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 7 of 8

Air transport (ICAO-TI/IATA-DGR)

UN number:	UN 3089
UN proper shipping name:	METAL POWDER, FLAMMABLE, N.O.S. (Iron, powder)
Transport hazard class(es):	4.1
Packing group:	II
Hazard label:	4.1
Special Provisions:	A3 A803
Limited quantity Passenger:	5 kg
Passenger LQ:	Y441
Excepted quantity:	E2
IATA-packing instructions - Passenger:	445
IATA-max. quantity - Passenger:	15 kg
IATA-packing instructions - Cargo:	448
IATA-max. quantity - Cargo:	50 kg

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user

Warning: flammable solids!

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. 7439-89-6: Yes.

National regulatory information

SARA Section 311/312 Hazards:

Iron, powder (7439-89-6): Fire hazard

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)**

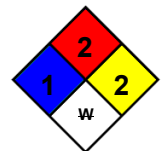
Health:	1
Flammability:	2
Physical Hazard:	2

NFPA Hazard Ratings

Health:	1
Flammability:	2
Reactivity:	2
Unique Hazard:	W
Revision date:	06.04.2020
Revision No:	1,00

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists



Safety Data Sheet

according to 29 CFR 1910.1200(g)

Iron chips and powder

Revision date: 06.04.2020

Page 8 of 8

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.