

Creation Date 12-Oct-2010

Revision Date 15-Feb-2019

Revision Number 11

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

| | |
|-----------------------------|--|
| Product Description: | Iron Filings |
| Cat No. : | I/0850/60, I/0850/63, I/0850/50 |
| Synonyms | Iron Metal |
| CAS-No | 7439-89-6 |
| Molecular Formula | Fe |

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

| | |
|---------------------------------------|---|
| Recommended Use | Laboratory chemicals. |
| Sector of use | SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites |
| Product category | PC21 - Laboratory chemicals |
| Process categories | PROC15 - Use as a laboratory reagent |
| Environmental release category | ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates) |
| Uses advised against | No Information available |

1.3. Details of the supplier of the safety data sheet

| | |
|----------------|--|
| Company | UK entity/business name Fisher Scientific UK Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom |
|----------------|--|

| |
|--|
| EU entity/business name Acros Organics BVBA Janssen Pharmaceuticaaan 3a 2440 Geel, Belgium |
|--|

| | |
|-----------------------|--------------------------------|
| E-mail address | begel.sdsdesk@thermofisher.com |
|-----------------------|--------------------------------|

1.4. Emergency telephone number

Tel: 01509 231166
Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Based on available data, the classification criteria are not met

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements

Hazard Statements

May form combustible dust concentrations in air

Precautionary Statements

2.3. Other hazards

Powdered material may form explosive dust-air mixtures

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

| Component | CAS-No | EC-No. | Weight % | CLP Classification - Regulation (EC) No 1272/2008 |
|-----------|-----------|-------------------|----------|---|
| Iron | 7439-89-6 | EEC No. 231-096-4 | >95 | - |

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of 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. |
| Ingestion | Do not induce vomiting. Get medical attention if symptoms occur. |
| Inhalation | Move to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration. |
| Self-Protection of the First Aider | No special precautions required. |

4.2. Most important symptoms and effects, both acute and delayed

No information available.

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

Extinguishing media which must not be used for safety reasons

Water. Foam. Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Combustible material. Fine dust dispersed in air may ignite.

Hazardous Combustion Products

None under normal use conditions.

5.3. Advice for firefighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

6.2. Environmental precautions

Avoid release to the environment. See Section 12 for additional ecological information. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s):

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) No information available

| <u>Route of exposure</u> | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|------------------------------|------------------------------|---------------------------------|--------------------------------|-----------------------------------|
| Oral Dermal Inhalation | | | | |

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection

Safety glasses with side-shields (European standard - EN 166)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments (minimum requirement) |
|-----------------------|--------------------------|------------------------|--------------------|--|
| Natural rubber | See manufacturers | - | EN 374 | |
| Nitrile rubber | recommendations | | | |
| Neoprene | | | | |
| PVC | | | | |

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection No protective equipment is needed under normal use conditions.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
Recommended Filter type: Particle filter

Small scale/Laboratory use Maintain adequate ventilation

Environmental exposure controls Prevent product from entering drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | |
|--|--------------------------|--|
| Appearance | Dark grey | |
| Physical State | Solid | |
| Odor | Odorless | |
| Odor Threshold | No data available | |
| pH | No data available | |
| Melting Point/Range | 1535 °C / 2795 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 3000 °C / 5432 °F | @ 760 mmHg |
| Flash Point | No information available | Method - No information available |
| Evaporation Rate | Not applicable | Solid |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Vapor Pressure | 1 mmHg @ 1787 °C | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | 7.86 @ 20°C | |
| Bulk Density | No data available | |
| Water Solubility | 0.015 mg/l @22 °C | practically insoluble |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |

9.2. Other information

| | |
|--------------------------|-------|
| Molecular Formula | Fe |
| Molecular Weight | 55.84 |

SECTION 10: STABILITY AND REACTIVITY

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions, Moisture sensitive.

10.3. Possibility of hazardous reactions

**Hazardous Polymerization
Hazardous Reactions**

Hazardous polymerization does not occur.
None under normal processing.

10.4. Conditions to avoid

Avoid dust formation. Incompatible products. Exposure to moisture.

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|--------------------|-------------|-----------------|
| Iron | 7500 mg/kg (Rat) | | |

(b) skin corrosion/irritation;

Based on available data, the classification criteria are not met

(c) serious eye damage/irritation;

Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Based on available data, the classification criteria are not met

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

Target Organs None known.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects, both acute and delayed No information available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|-----------|--|------------|------------------|----------|
| Iron | LC50: = 13.6 mg/L, 96h static (Morone saxatilis) | | | |

12.2. Persistence and degradability

Persistence Insoluble in water.
Degradability Not relevant for inorganic substances.
Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential May have some potential to bioaccumulate

12.4. Mobility in soil The product is insoluble and sinks in water Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information Do not dispose of waste into sewer.

SECTION 14: TRANSPORT INFORMATION

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

IMDG/IMO Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

ADR Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

IATA Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

- 14.5. Environmental hazards** No hazards identified
- 14.6. Special precautions for user** No special precautions required
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed.

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-----------|-----------|--------|-----|------|-----|------|-------|------|-------|------|--------------|
| Iron | 231-096-4 | - | | X | X | - | X | - | X | X | KE-2105 9 |

National Regulations

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|-----------|--|-------------------------|
| Iron | nwg - nicht wassergefährdend (non-hazardous to waters) | |

| Component | France - INRS (Tables of occupational diseases) |
|-----------|---|
| Iron | Tableaux des maladies professionnelles (TMP) - RG 44, RG 44bis, RG 94 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

SAFETY DATA SHEET

Iron Filings

Revision Date 15-Feb-2019

Full text of H-Statements referred to under sections 2 and 3

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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Revision Summary Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet