Material Safety Data Sheet
Iron Powder Fe 300

Edition: 15/01/2019

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1) Identification of substance/preparation and of the company undertaking

Material	Iron Powder
EC No	231-096-4
CAS No	7439-89-6
REACH Registration No	01-2119462838-24-XXXX
Company	Inoxia Ltd 45.7 Dunsfold Park Stovolds Hill Cranleigh Surrey GU6 8TB Tel: 02032 909990 safety@inoxia.co.uk www.inoxia.co.uk

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

Use of the substance/preparation:
Powder metallurgical use.

Uses advised against:
There are no identified uses advised against this product.

2) Hazards identification.

2.1. Classification of the substance or mixture (EC) No 1272/2008

Not Classified

2.2. Label elements

The product does not need to be labelled in accordance to Regulation (EC) 1272/2008.

Signal Word: None.
Hazard statement: Not applicable.
Precautionary statement: Not applicable.
Classification according to Directive 67/548/EEC: See section 16, for further information.
Other hazards: The substance does not meet the criteria for PBT or vPvB substance.
Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

3) Composition/information on ingredient

3.1. Substance/Mixture

Chemical Name	EC-No	CAS-No	Content (%)	Classification according to Regulation (EC) No 1272/2008	Classification according to Directive 67/548/EEC	REACH Registration Number	Substance with an OEL-value
Iron Powder Fine RS	231-096-4	7439-89-6	>97	-	-	01-2119462838-24-XXXX	*

For the full text of the H-Statements mentioned in this section, see section 16.
For the full text of the R-phrases mentioned in this section, see section 16.

4) First Aid Measures

4.1. Description of first aid measures

First-aid measures after inhalation: Move the exposed person to fresh air, if symptoms persist, call a Doctor.

First-aid measures after skin contact: Remove all contaminated clothes. Wash skin with soap and water.

First-aid measures after eye contact: Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention if irritation persists..

First-aid measures after ingestion: Drink 1 or 2 glasses of water. Get medical attention, if possible. Drink milk afterwards.

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

Inhalation: Main symptoms: Cough and shortness of breath. May cause irritation of respiratory tract.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Skin contact: Long term contact can cause irritation.
Eye contact: May cause mechanical irritation.

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

Treat symptomatically.

5) Fire Fighting

5.1. Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Keep containers and surroundings cool with water spray. Confining and smothering metal fires is preferable rather that applying water. Use: Dry powder, dry chemical.

5.2 Extinguishing media which shall not be used for safety reasons:

Do not use a solid water stream as it may scatter and spread fire.

5.3 Special hazards arising from the substance or mixture:
None in particular.

5.4 Advice for firefighters:
As in any fire, wear self-contained breathing apparatus and full protective gear.

6) Accidental Release

6.1 Personal precautions, protective equipment and emergency procedures:
Avoid dust formation. Remove all sources of ignition. For personal equipment, see section 8.

6.2 Environmental precautions:
Try to prevent the material from entering drains or water sources.

6.3 Methods and material for containment and cleaning up:
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).

7) Handling/Storage

7.1. Precautions for safe handling
Precautions for safe handling: Use sufficient dust extraction. Keep workplace clean from dust. Accumulated dust dispersed in air may cause dust explosion if ignited. Avoid inhalation, ingestion and contact with skin and eyes. General occupational hygiene measures are required to ensure safe handling of the substance. The measures involve good personal and housekeeping practice (i.e. regular cleaning with suitable cleaning devices), no drinking, eating and smoking at the workplace. Shower and change clothes at the end of work shift.

7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly closed in dry place to avoid oxidation of material. Make sure the product does not come in contact with acids or strong oxidizers.
Specific end uses: No information available.

8) Exposure Controls/Personal Protection

8.1. Control parameters
8.1.1 Exposure limit values

Chemical Name	**Iron Powder Fines RS 7439-89-6**
Bulgaria	TWA: 6.0 mg/m³
Czech Republic	TWA:10.0 mg/m³
Slovakia	TWA: 6.0 mg/m³

Derived No Effect Level (DNEL)
Iron Powder Fines RS

Exposure Route of Relevance	Long term local effects workers	Long term systemic effects workers	Short term local effects workers	Short term systemic effects workers	Long term local effects consumer	Long term systemic effects consumer	Short term local effects consumer	Short term systemic effects consumer
Human oral						0.71 mg/kg bw/day		
Human inhalation	3 mg/m^3				1.5 mg/m^3			

Predicted no effect concentration (PNEC)

8.2. Exposure controls

Appropriate engineering controls: Ensure adequate ventilation, especially in confined areas. If occupational exposure limit value is suspected to be reached Or dust levels are high, exposure measurement is recommended.

Hand protection: Use gloves resistant to chemical products corresponding to EN 374:3. Take advice to gloves' manufacturer

Eye/face protection: Use goggles in case of dusty atmosphere.

Skin/hand protection: Long sleeved clothing. Use of canvas gloves is advisable.

Respiratory protection: Halfmask with particle filter P3 shall be worn if exposure limit value is suspected to be exceeded or the dust is perceived disturbing.

Thermal hazards: The product does not represent a thermal hazard, thus special consideration is not required.

Environmental exposure controls: Dust from exhaust ventilation should be separated out in order to avoid release to the natural environment.

9) Physical/Chemical Properties

Appearance: Powder
Colour: Light Grey to Grey, Fine grained metal powder.
Odour: Odourless
Odour threshold: Not applicable
Particle size: No information available.
pH: Not applicable, insoluble in water
Melting/freezing point: 1538°C @ 1013Pa
Boiling point/boiling range: 2861°C @ 1013 Pa
Flash point: Not applicable, not relevant for inorganic substances
Evaporation rate: Solid with a melting point >300°C
Flammability (solid, gas): Not flammable, according to method A10, EU-Regulation 440/2208

Flammability Limits in Air
Upper flammability or explosive limit: No information available
Lower flammability or explosive limit: No information available.
Vapor pressure: Not applicable, solid with a melting point >300°C
Vapor density: No information available, solid with melting point >300°C
Relative density: 7.87 g/cm3 @20°C
Water solubility: 0.015 mg/l @ 22°C
Solubility in other solvents: No information available
Partition coefficient: n-octanol/water: Not applicable, not relevant for inorganic substances
Autoignition temperature: No information available, UN test No.4
Decomposition temperature: Not applicable, not relevant for inorganic substances.
Viscosity: Not applicable, solid with a melting point >30°C
Explosive properties: Not explosive, the substance contains no chemical groups associated with explosive properties.
Oxidizing properties:The substance is incapable of reacting exothermically with combustible materials on the basis of the chemical structure.

Other information
VOC Content (%): Not applicable
Bulk density: 2.0 – 3.0g/cm3
Fines fraction: 80% @ <45um
Dust explosion class: St 1

10) Stability/Reactivity
Conditions to avoid: Avoid generating dust; fine dust dispersed in air sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Materials to avoid: Strong oxidizing agents and strong acids
Reactivity: Stable under normal circumstances
Chemical stability: Stable under normal handling and storage conditions
Hazardous decomposition products: None under normal use
Possibility of hazardous reactions: None under normal processing

11) Toxicological Info
11.1. Information on toxicological effects
Acute toxicity: The substance is not toxic for skin, inhalation or ingestion.
Germ cell mutagenicity: Ames test OECD 471 negative
Carcinogenicity: Not classified according to the criteria's of the Globally Harmonized System (GHS).
Reproductive toxicity: Testing of metallic iron for the reproductive toxicity is not Appropriate due to a lack of systemic exposure
Skin corrosion/irritation: Not irritating
Serious Eye Damage/Eye irritation: ECD 405; Not irritating
Respiratory or skin sensitization: Not sensitizing.
STOT-single exposure: Not classified according to the criteria's of the Globally harmonized System (GHS)
STOT-repeated exposure: Not classified according to the criteria's of the Globally harmonized System (GHS)

Aspiration hazard: Not classified according to the criteria's of the Globally harmonized System (GHS)
General: The principal risk to human health presented by "iron" dust is Related to the concentration of dust in the air acting as a nuisance Dust. The higher the concentration of dust the greater the risk of irritation to the respiratory system and mechanical irritation to the eyes.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 inhalation
Iron Powder Fe300	7500 mg/kg bw (Rat)	-	-

12) Ecological Information

12.1 Ecotoxicity effects

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Iron Powder Fine RS	-	LC50 96h = 13.6 mg/L (Morone saxatillis – static) LC50 96h = 0.56 mg/L (Cyprinus carpio- semi-static)	-	-

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

Bioaccumulative potential: Iron and its compounds are essential compounds. Iron is an Essential trace element, well regulated in all living organisms. The Available evidence shows the absence of iron biomagnification Across the trophic chain both in the aquatic and terrestrial food Chains. The existing information suggests not only does not biomagnify, but rather that it tends to exhibit biodelution.

Mobility in solid: Iron and its compounds are found in the form of hydroxides in The environment. They are stabilized in the form of oxides in the long term.

Results of PBT and vPvB assessment: As iron is not bio-available, owing to its extreme insolubility in water. It is not systematically available or bio-accumulative, and hence it does not fulfil either of the PBT or vPvB criteria for classification

Other adverse effects: None anticipated

13) Disposal Considerations

Product disposal: This product is not classified as hazardous waste according to Directive 2008/98/EC and national or regional provisions. Dispose of as hazardous waste in compliance with local and national Regulations.

Packaging disposal: According to directive 94/62/EC on packaging and packaging waste Carefully emptied packaging can be incinerated.

Other information: Waste code should be assigned by the user based on the application for which the product was used.

14) Transport Information

UN Number: Not applicable
UN Proper shipping name: Not applicable
Transport hazard class(es): Not applicable
Packaging Group: Not applicable
Environmental hazards: Not classified
Special precautions for users: Not applicable
Transport in bulk according to MARPOL 73/78 and the IBC Code: Not applicable
Additional information, ADR/ADR-S (road): Not applicable

15) Regulatory Information

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

Authorisations: Not required

Restrictions on use: None

Other EU regulations: The product is not a SEVESO substance. Not an ozone depleting Substance and not a persistent organic pollutant.

National regulations: No information available

15.1 Chemical Safety assessment.

A chemical Safety Assessment has been carried out for this substance
Internal inventories: All of the components in the product are on the following lists:
TSCA: Complies
EINECS/ELINCS: Complies
DSL/NDSL: Complies
PICCS: Complies
ENCS: -
IECSC: Complies
AICS: Complies
KECL: Complies

Legend:
TSCA: United States Toxic substances control act Section 8(b) inventory
EINECS/ELINCS: European Inventory of Existing commercial chemical substances/EU List of Notified Chemical substances
DSL/NDSL: Canadian Domestic Substances List/Non-Domestic List
PICCS: Philippines inventory of Chemicals and Chemical substances
ENCS: Japan existing and New chemical substances
IECSC: China Inventory of Existing Chemical substances.
AICS: Australian Inventory of chemical substances

KECL: Korean existing and Evaluated chemical substances

16) Other Information

Classification according to Directive 67/548/EEC: Not classified.
Labelling according to Directive 67/548/EEC: Not classified
Risk phrases: Not applicable
Safety phrases: Not applicable
Abbreviations: EC50: median effective concentration; LC50: median lethal concentration.
LD50: median lethal dose
NOEC: No observable effect concentration
OEL: Occupational exposure limit
PBT: Persistent, bioaccumulative, and toxic chemicals.
PNEC: Predicted no effect concentration (PNEC)
STEL: Short-term exposure limit
TAW: Time weighted average
vPvB: Very persistent, very bioaccumulative chemical

The contents and format of this SDS are in accordance with Regulation (EU) No. 453/2010, Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
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