

SAFETY DATA SHEET – IRON POWDER

1. IDENTIFICATION OF SUBSTANCE/PREPARATION & COMPANY

1.1. Product identifier:

Product Name / Code: Iron Powder, DPP258

REACH Key Notes: -

1.2. Relevant identified uses of the substance or mixture:

Powder Metallurgy, Decorative Castings/Coatings, chemical reagent.
There are no identified uses advised against

1.3. Details of the supplier of the safety data sheet:

Company: Flints Theatrical Chandlers Ltd
Unit 9 Deptford Trading Estate
Blackhorse Road
SE8 5HY

Telephone: +44 (0) 20 7703 9786

Email: sales@flints.co.uk

Telephone operated from 08:30 – 17:30 Monday to Friday, 09:00 – 14:00 Saturday.
In an emergency, seek advice from a medical professional.

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Not classified

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Product does not require labelling

2.3. 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 INGREDIENTS

3.1 Description of Material:

Iron Powder

Chemical Composition:

Chemical name	EINECS N°	CAS N°	REACH Registration No.	Conc. (% w/w)	Classification according to Regulation (EC) No 1272/2008	Hazard statement
Iron	231-096-4	7439-89-6	01-2119462838-24-xxxx	>97%	-	-

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

General Advice:	First aid followed by medical attention.
Inhalation:	Move exposed person to fresh air. Keep warm and at rest. Seek medical attention as soon as possible.
Skin contact:	Wash with mild soap and water. Generally the product does not irritate the skin. Seek medical advice if irritation occurs/persists.
Eye Contact:	Rinse opened eye for several minutes under running water. Seek medical attention.
Ingestion:	Wash mouth out with water, seek medical attention if symptoms occur.

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.
Skin contact:	Long term contact can cause irritation.
Eye Contact:	May cause mechanical irritation.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

Treat Symptomatically

5. FIRE FIGHTING MEASURES

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 than applying water. Use: Dry powder, dry chemical.

Extinguishing Media not suitable for safety reasons:

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

5.2 Special hazards arising from the substance or mixture:

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.

5.3 Advice for firefighters:

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions:

Wear protective equipment.

Keep unprotected persons away.

Avoid formation of dust

6.2 Environmental precautions:

Do not allow product to reach ground water, water bodies or sewerage system.

6.3 Methods for cleaning up:

Sweep up and shovel. Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections:

See also sections 8 and 13

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage including any incompatibilities:

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

7.3 Specific end uses:

None

8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control Parameters:

Iron - 7439-89-6

Bulgaria TWA: 6.0 mg/m³

Czech Republic TWA: 10.0 mg/m³

Slovakia TWA: 6.0 mg/m³

Chemical Name Iron oxide - 1309-37-1

Austria STEL 10 mg/m³

TWA: 5 mg/ m³

TWA: 10 mg/ m³

Belgium TWA: 2 ppm

	TWA: 5 mg/ m ³
Bulgaria	TWA: 5.0 mg/ m ³
	TWA: 6.0 mg/ m ³
Croatia	TWA: 4 mg/ m ³
	TWA: 10 mg/ m ³
	TWA: 5 mg/ m ³
	STEL: 10 mg/ m ³
Czech Republic	TWA: 10.0 mg/ m ³
Denmark	TWA: 3.5 mg/ m ³
Estonia	TWA: 3.5 mg/ m ³
Finland	TWA: 5 mg/ m ³
France	TWA: 5 mg/ m ³
Greece	TWA 10 mg/ m ³
Hungary	TWA: 6 mg/ m ³
Ireland	TWA: 5 mg/ m ³
	TWA: 10 mg/ m ³
	TWA: 4 mg/ m ³
	STEL: 10 mg/ m ³
Norway	TWA: 3 mg/ m ³
	STEL: 6 mg/ m ³
Poland	STEL: 10 mg/ m ³
	TWA: 5 mg/ m ³
Portugal	TWA: 5 mg/ m ³
Rumania	TWA: 5 mg/ m ³
	STEL: 10 mg/ m ³
Slovakia	TWA: 1.5 mg/ m ³
	TWA: 4 mg/ m ³
Spain	TWA: 5 mg/ m ³
Sweden	3.5 mg/ m ³ NGV respirable dust
Switzerland	TWA: 3 mg/ m ³

FLINTS

Theatrical Chandlers

MSDS Sheet: Iron Powder, DPP258

Date: 13/05/2019

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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			

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 Use goggles in case of dusty atmosphere.

Skin protection Handle with gloves. Use of canvass gloves is advisable.

Body Protection Long sleeved clothing.

Respiratory protection During handling dust is generated; and if ventilation is inadequate the use of a half-mask with 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 AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Gray coloured powder

Odour: odourless

Odour threshold: no data available

pH: no data available

Melting point/freezing point; 1538°C

Initial boiling point and boiling range: 2861°C

Flash point: no data available

Evaporation rate: no data available

Flammability (solid, gas): not flammable (according to method A10, EU-Regulation 440/2008)

Upper/lower flammability

or explosive limits: no data available

Vapour pressure:	Not applicable (solid with melting point >300°C)
Vapour density:	no data available
Relative density:	7.87 g/cm ³ at 20°C
Specific Weight:	no data available
Water solubility:	0.015 mg/l at 22°C
Partition coefficient: n octanol/water:	no data available
Auto ignition temperature:	No auto ignition
Decomposition temperature:	will not decompose
Viscosity:	no data available
Explosive properties:	non explosive
Oxidizing properties:	not oxidising

9.2 Other Safety Information

VOC Content (%):	Not applicable
Bulk Density:	2.0 -3.0 g/cm ³
Fines fraction:	5-30% <45um
Dust explosion class:	St 1

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions

10.2 Chemical stability

Stable under normal handling and storage conditions

10.3 Possibility of hazardous reactions

None under normal processing conditions

10.4 Conditions to avoid

Avoid generating dust; fine dust in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

10.5 Incompatible materials

Strong oxidizing agents and strong acids

10.6 Hazardous decomposition products

The product will not decompose.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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.

Acute toxicity	The substance is not toxic for skin, inhalation or ingestion.
Skin corrosion/irritation	Not irritating.
Serious eye damage/eye irritation	OECD 405: Not irritating.
Respiratory or skin sensitization	Not sensitizing.
Germ cell mutagenicity	Ames test OECD 471 negative.
Carcinogenicity	Not classified according to the criteria of the Globally Harmonized System (GHS)
Reproductive toxicity	Testing of metallic iron for reproductive toxicity is not appropriate due to a lack of systemic exposure.
Specific target organ toxicity	
- single exposure	Not classified according to the criteria of the Globally Harmonized System (GHS)
Specific target organ toxicity	
- repeated exposure	Not classified according to the criteria of the Globally Harmonized System (GHS)
Aspiration hazard	Not classified according to the criteria of the Globally Harmonized System (GHS)
Additional Information	LD50 Oral 7500 mg/kg bw (Rat) LD50 Dermal - LD50 Inhalation -

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects: Contains forms of iron which are highly insoluble and non-hazardous

Toxicity to Fish:

LC50 96h = 13.6 mg/L (Morone saxatilis - static)

LC50 96h = 0.56 mg/L (Cyprinus Carpio - semi-static)

12.2 Persistence and degradability

No data available.

12.3 Bio-accumulative 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 that iron does not biomagnify, but rather that it tends to exhibit biodilution.

12.4 Mobility in soil

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.

12.5 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 bioaccumulative, and hence it does not fulfill either of the PBT or vPvB criteria for classification.

12.6 Other adverse effects

None anticipated.

13. DISPOSAL INFORMATION

Product: This product is not classified as hazardous waste according to directive 2008/98/EC and national or regional provisions. Remove in accordance with local official regulations.

Used packaging material: Containers may be recycled or re-used. Observe local/state/federal regulations.

14. TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA
14.1 UN number	-	-	-
14.2 UN Proper shipping name	Not dangerous Goods	Not dangerous Goods	Not dangerous Goods
14.3 Transport Hazard Class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental Hazards	No	Marine pollutant: No	No
14.6 Special Precautions for user	No data available	No data available	No data available
14.7 Transport in Bulk according to Annex II of Marpol73/78 and the IBC code	Not applicable	Not applicable	Not applicable
14.8 Labelling	none		

15. REGULATORY INFORMATION

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

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

No data available

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product

16. OTHER INFORMATION

Issue Date:	13 May 2019
Revision Number:	3
Laws and References	Directive 2004/74/EC Regulation EC n. 1907/2006 (REACH) Regulation EC n. 2172/2008 (CLP) Regulation EC n. 790/2009 Regulation EC n. 453/2010 ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road) - IMDG Code (International Maritime Dangerous Goods Code). IATA (International Air Transport Association). SAX'S, (Dangerous Properties of Industrial Materials) ACGIH (2009) American Conference of Governmental Industrial Hygienists

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