

According to REACH Regulations (EC) 1907/2006 and (EU) 2020/878

## 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Product code : GX0385  
 Product name : Iron Nanopowder, 99.7% [50nm]  
 CAS number : 7439-89-6  
 Physical form : solid, substance - nanoform  
 REACH : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

PC21: Laboratory chemicals.

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

Company name : Glentham Life Sciences Ltd Telephone : +44 (0) 1225 667 798  
 Unit 5 Leafield Way Fax : +44 (0) 2033 978 909  
 Corsham SN13 9SW Email : [info@glentham.com](mailto:info@glentham.com)  
 United Kingdom Web : [www.glentham.com](http://www.glentham.com)

### 1.4 Emergency telephone number

Emergency telephone : NHS Direct 111 (UK, 24 hours), 112 (EU, 24 Hours), +44 (0) 1225 667 798 (09.00 – 17.00 GMT) number

## 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification under CLP according to (EC) 1272/2008

H228 Flam. Sol. 1

### 2.2 Label elements

Label elements under CLP according to (EC) 1272/2008

#### Pictograms



GHS02

**Signal words** Danger

#### Hazard statements

H228 Flammable solid

#### Precautionary statements

P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.  
 P241 Use explosion-proof electrical equipment.

### 2.3 Other hazards

PBT

This substance is not identified as a PBT substance.

## 3.0 Composition/information on ingredients

### 3.1 Substances

| Name                          | Identifier                                     | %     | Classification     |
|-------------------------------|--|-------|--------------------|
| Iron Nanopowder, 99.7% [50nm] | CAS: 7439-89-6<br>EC:<br>REACH: Not applicable | 99.7% | H228, Flam. Sol. 1 |

## 4. First aid measures

### 4.1 Description of first aid measures

|              |  |
|--------------|--|
| Skin contact | Consult a doctor. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Remove all contaminated clothes and footwear immediately unless stuck to skin. |
| Eye contact  | Consult a doctor. Bathe the eye with running water for 15 minutes.   |
| Ingestion    | Consult a doctor. Do not induce vomiting. If conscious, give half a litre of water to drink immediately.   |
| Inhalation   | Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.   |

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

|                             |   |
|-----------------------------|---|
| Skin contact                | There may be mild irritation at the site of contact.                            |
| Eye contact                 | There may be irritation and redness.  |
| Ingestion                   | There may be irritation of the throat.  |
| Inhalation                  | There may be irritation of the throat with a feeling of tightness in the chest. |
| Delayed / immediate effects | Delayed effects can be expected after long-term exposure.                       |

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

Immediate / special treatment

Do not induce vomiting.

## 5. Fire-fighting measures

### 5.1 Extinguishing media

Alcohol resistant foam. Carbon dioxide. Dry chemical powder. Water spray.

### 5.2 Special hazards arising from the substance or mixture

Exposure hazards

Highly flammable. In combustion emits toxic fumes. May form flammable / explosive dust-air mixture.

### 5.3 Advice for fire-fighters

Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Eliminate all sources of ignition. Notify the police and fire brigade immediately. Refer to section 8 of SDS for personal protection details.

### 6.2 Environmental precautions

Do not discharge into drains or rivers.

### 6.3 Methods and material for containment and cleaning up

Clean-up procedures

Transfer to a closable, labelled salvage container for disposal by an appropriate method. Do not use equipment in clean-up procedure which may produce sparks.

### 6.4 Reference to other sections

Refer to section 8 of SDS.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Handling requirements

Avoid the formation or spread of dust in the air. Smoking is forbidden. Use non-sparking tools. Ensure there is sufficient ventilation of the area.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Ensure lighting and electrical equipment are not a source of ignition. Keep away from sources of ignition. Keep container tightly closed. Prevent the build up of electrostatic charge in the immediate area. Store in cool, well ventilated area.

## 7.3 Specific end use(s)

No data available.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Workplace exposure limits

No workplace exposure limit control parameters set

### 8.2 Exposure controls

|                        |  |
|------------------------|--|
| Engineering measures   | Ensure lighting and electrical equipment are not a source of ignition. Ensure there is sufficient ventilation of the area. |
| Respiratory protection | Respiratory protective device with particle filter.  |
| Hand protection        | Protective gloves.   |
| Eye protection         | Ensure eye bath is to hand. Safety glasses.  |
| Skin protection        | Protective clothing.   |

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |                    |
|---|--------------------|
| Physical state                                    | Solid              |
| Colour  | Black              |
| Odour   | No data available. |
| Melting point/Freezing point                      | 1535 °C            |
| Boiling point/initial boiling point/boiling range | 3000 °C            |
| Flammability                                      | Flammable solid    |
| Lower/Upper explosion limit                       | No data available. |
| Flash Point                                       | No data available. |
| Auto-ignition temperature                         | No data available. |
| Decomposition temperature                         | No data available. |
| pH  | No data available. |
| Kinematic viscosity                               | No data available. |
| Solubility  | No data available. |
| Partition coefficient n-octanol/water             | No data available. |
| Vapour pressure                                   | No data available. |
| Density/relative density                          | 7.860              |
| Relative vapour pressure                          | No data available. |
| Particle characteristics                          | No data available. |

### 9.2 Other information

No data available.

## 10. Stability and reactivity

### 10.1 Reactivity

Stable under recommended transport or storage conditions.

### 10.2 Chemical stability

Stable at room temperature. Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

#### Hazardous reactions

Decomposition may occur on exposure to conditions or materials listed below. Hazardous reactions will not occur under normal transport or storage conditions.

### 10.4 Conditions to avoid

Flames. Hot surfaces. Sources of ignition. Heat.

#### 10.5 Incompatible materials

##### Materials to avoid

Carbon dioxide. Strong acids. Strong oxidising agents.

### 11. Toxicological information

#### 11.1 Information on toxicological effects

##### a) Acute toxicity

No data available.

##### b) Skin corrosion/irritation

No data available.

##### c) Serious eye damage/irritation

No data available.

##### d) Respiratory or skin sensitisation

No data available.

##### e) Germ cell mutagenicity

No data available.

##### f) Carcinogenicity

No data available.

##### g) Reproductive toxicity

No data available.

##### h) STOT-single exposure

No data available.

##### i) STOT-repeated exposure

No data available.

##### j) Aspiration hazard

No data available.

#### 11.2 Symptoms / routes of exposure

|              |  |
|--------------|--|
| Skin contact | There may be mild irritation at the site of contact. |
|--------------|--|

|             |                                      |
|-------------|--------------------------------------|
| Eye contact | There may be irritation and redness. |
|-------------|--------------------------------------|

|           |  |
|-----------|--|
| Ingestion | There may be irritation of the throat. |
|-----------|--|

|            |   |
|------------|---|
| Inhalation | There may be irritation of the throat with a feeling of tightness in the chest. |
|------------|---|

|                             |   |
|-----------------------------|---|
| Delayed / immediate effects | Delayed effects can be expected after long-term exposure. |
|-----------------------------|---|

|                   |                    |
|-------------------|--------------------|
| Other information | No data available. |
|-------------------|--------------------|

### 12. Ecological information

#### 12.1 Toxicity

48 hr EC50 Dinoflagellate (Gymnodinium splendens): 17.5 mg/L

#### 12.2 Persistence and degradability

Biodegradable.

#### 12.3 Bioaccumulative potential

No bioaccumulation potential.

#### 12.4 Mobility in soil

Readily absorbed into soil.

#### 12.5 Results of PBT and vPvB assessment

This substance is not identified as a PBT substance.

## 12.6 Endocrine disrupting properties

This substance is not identified as having endocrine disrupting properties

## 12.7 Other adverse effects

No data available.

## 13. Disposal considerations

### 13.1 Waste treatment methods






#### Disposal operations

Transfer to a suitable container and arrange for collection by specialised disposal company.

#### NB

The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## 14. Transport information

| ADR  | IMDG   | IATA   | ADN  | RID  |
|--|--|--|--|--|
| <b>14.1. UN number</b>   |  |  |  |  |
| UN3089   | UN3089   | UN3089   | UN3089   | UN3089   |
| <b>14.2. UN proper shipping name</b>   |  |  |  |  |
| METAL POWDER,<br>FLAMMABLE, N.O.S.   | METAL POWDER,<br>FLAMMABLE, N.O.S.   | Metal powder,<br>flammable, n.o.s.   | METAL POWDER,<br>FLAMMABLE, N.O.S.   | METAL POWDER,<br>FLAMMABLE, N.O.S.   |
| <b>Transport document description</b>  |  |  |  |  |
| UN3089 METAL<br>POWDER,<br>FLAMMABLE, N.O.S.<br>(IRON<br>NANOPOWDER,<br>99.7% [50NM]), 4.1,<br>III | UN3089 METAL<br>POWDER,<br>FLAMMABLE, N.O.S.<br>(IRON<br>NANOPOWDER,<br>99.7% [50NM]), 4.1,<br>III | UN3089 Metal<br>powder, flammable,<br>n.o.s. (Iron<br>Nanopowder, 99.7%<br>[50nm]), 4.1, III | UN3089 METAL<br>POWDER,<br>FLAMMABLE, N.O.S.<br>(IRON<br>NANOPOWDER,<br>99.7% [50NM]), 4.1,<br>III | UN3089 METAL<br>POWDER,<br>FLAMMABLE, N.O.S.<br>(IRON<br>NANOPOWDER,<br>99.7% [50NM]), 4.1,<br>III |
| <b>14.3. Transport hazard class(es)</b>  |  |  |  |  |
| 4.1  | 4.1  | 4.1  | 4.1  | 4.1  |
|                 |                 |           |                |               |
| <b>14.4. Packing group</b>   |  |  |  |  |
| III  | III  | III  | III  | III  |
| <b>14.5. Environmental hazards</b>   |  |  |  |  |
| No   | No   | No   | No   | No   |

## 15. Regulatory information

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

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/787.

#### Authorisations/Restrictions

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: No data available.

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: No data available.

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: No data available.

Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: No data available.

## 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

## 16. Other information

### H-Statement Full Texts

H228 Flammable solid

### Abbreviations Full Texts

|           |   |
|-----------|---|
| ADN       | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR       | European Agreement concerning the International Carriage of Dangerous Goods by Road             |
| ALARP     | As low as is reasonably practicable   |
| CAS       | Chemical Abstracts Service  |
| CLP       | Classification, Labelling and Packaging Regulations   |
| COSHH     | Control of Substances Hazardous to Health   |
| EC Number | European Community Number   |
| EC50      | Effective Concentration 50%   |
| EILINCS   | European List of Notified Chemical Substances   |
| EINECS    | European Inventory of Existing Commercial Chemical Substances                                   |
| GHS       | Globally Harmonised System  |
| HSE       | Health & Safety Executive UK  |
| IATA      | International Air Transport Association   |
| IM        | Intramuscular   |
| IMDG      | The International Maritime Dangerous Goods Code   |
| IP        | Intraperitoneal   |
| IV        | Intravascular   |
| LD50      | Lethal Dose 50%   |
| LOEC      | Lowest Observable Effective Concentration   |
| LTEL      | Long Term Exposure Limit  |
| NOEC      | No Observable Effective Concentration   |
| OECD      | Organisation for Economic Cooperations and Development  |
| PBT       | Persistent Bioaccumulative Toxic  |
| PPE       | Personal Protective Equipment   |
| REACH     | Registration, Evaluation, Authorisation and Restriction of Chemicals                            |
| RID       | Regulations Concerning the International Carriage of Dangerous Goods by Rail                    |
| SC        | Subcutaneous  |
| SDS       | Safety Data Sheet   |
| STEL      | Short Term Exposure Limit   |
| STOT      | Specific Target Organ Toxicity  |
| VOC       | Volatile Organic Compounds  |
| vPvB      | Very Persistent and Very Bioaccumulative  |
| WEL       | Workplace Exposure Limits   |

**This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/787.**

Disclaimer: Glentham Life Sciences shall not be held liable for any damage resulting from handling or from contact with the above product. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This document does not guarantee the properties or quality of the product.

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