Safety Data Sheet

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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	:	GX4414
Product name	:	Copper Powder -20, +50 mesh, 99.95%
CAS number	:	7440-50-8
Physical form	:	solid, substance
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
		United Kingdom	Web	:	www.glentham.com

1.4 Emergency telephone number

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

2. Hazards identification

2.1 Classification of the substance or mixture

Classification under CLP according to (EC) 1272/2008

H228	Flam. Sol. 1
H400	Aquatic Acute 1
H412	Aquatic Chronic 3

2.2 Label elements

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

Pictograms

GHS02 GHS09

Signal words Danger

Hazard statements

H228	Flammable solid
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Precautionary statements

P210	Keep away from heat, hot surface, sparks, open flames and other ignition sources. - No smoking.
P273	Avoid release to the environment.
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
Copper Powder -20, +50 mesh, 99.95%	CAS: 7440-50-8 EC: REACH: Not applicable		H228, Flam. Sol. 1 H400, Aquatic Acute 1 H412, Aquatic Chronic 3

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. Wash immediately with plenty of soap and water.
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. Wash out mouth with water.
Inhalation	Consult a doctor. Remove casualty from exposure ensuring one's own safety whilst doing so.

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. Immediate effects can be expected after short-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. Suitable extinguishing media for the surrounding fire should be used. 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. Mark out the contaminated area with signs and prevent access to unauthorised personnel. 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

Avoid contact with water or humidity. 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

Substance (CAS)	Control Parameter	Value	Notes	Source
Copper fume (as Cu) (7440-50-8)	Long-term Exposure Limit (mg m^{-3})	0.2		UK HSE EH40/2005
	Long-term Exposure Limit (mg m^{-3})	1		
	Short-term Exposure Limit (mg m^{-3})	2		
Copper and compounds: dust and mists (as Cu) (7440-50-8)	Long-term Exposure Limit (mg m^{-3})	0.2		UK HSE EH40/2005
	Long-term Exposure Limit (mg m^{-3})	1		
	Short-term Exposure Limit (mg m^{-3})	2		

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	Copper
Odour	No data available.
Melting point/Freezing point	1057 - 1059 °C
Boiling point/initial boiling point/boiling range	2595 °C
Flammability	No data available.
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	No data available.
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

Copper fume (as Cu)

LD50 Mouse (IP): 3500 ug/kg

Copper and compounds: dust and mists (as Cu)

LD50 Mouse (IP): 3500 ug/kg

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. Immediate effects can be expected after short-term exposure.
Other information	No data available.

12. Ecological information

12.1 **Toxicity**

No data available.

12.2 **Persistence and degradability**

Not biodegradable.

12.3 **Bioaccumulative potential**

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
14.1. UN number				
UN3089	UN3089	UN3089	UN3089	UN3089
14.2. UN proper shipping name				
METAL POWDER, FLAMMABLE, N.O.S.	METAL POWDER, FLAMMABLE, N.O.S.	Metal powder, flammable, n.o.s.	METAL POWDER, FLAMMABLE, N.O.S.	METAL POWDER, FLAMMABLE, N.O.S.

Transport document description				
UN3089 METAL POWDER, FLAMMABLE, N.O.S. (COPPER POWDER -20, +50 MESH, 99.95%), 4.1, II	UN3089 METAL POWDER, FLAMMABLE, N.O.S. (COPPER POWDER -20, +50 MESH, 99.95%), 4.1, II	UN3089 Metal powder, flammable, n.o.s. (Copper Powder -20, +50 mesh, 99.95%), 4.1, II	UN3089 METAL POWDER, FLAMMABLE, N.O.S. (COPPER POWDER -20, +50 MESH, 99.95%), 4.1, II	UN3089 METAL POWDER, FLAMMABLE, N.O.S. (COPPER POWDER -20, +50 MESH, 99.95%), 4.1, II
14.3. Transport hazard class(es)				
4.1	4.1	4.1	4.1	4.1
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
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
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

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

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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.