

SAFETY DATA SHEET

(in accordance with Regulation (EU) 2015/830)



COPPER OXIDE

Version: 7
Revision date 28/05/2019

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

1.1 Product identifier.

Product Name: COPPER OXIDE
Chemical Name: copper oxide
CAS No: 1317-38-0
EC No: 215-269-1
Nºregister 01-2119502447-44-XXXX

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

Industrial use

Uses advised against:

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **ALDEBARÁN SISTEMAS SL**
Address: C/Jerónimo Zurita, 10, entlo izda, 50001
City: Zaragoza
Province: Zaragoza
Telephone: 0034976796134
E-mail: aldebaran@aldebaransistemas.com

1.4 Emergency telephone number: 0034915620420 (Available 24 hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance.

In accordance with Regulation (EU) No 1272/2008:

Aquatic Acute 1 : Very toxic to aquatic life.

Aquatic Chronic 1: Very toxic to aquatic organisms, with long-lasting harmful effects

2.2 Label elements.

Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

Warning

H statements:

H410 Very toxic to aquatic life with long lasting effect

P statements:

P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container to local/national normative

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Contains:
copper oxide

2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.

Chemical Name:	copper oxide
CAS No:	1317-38-0
EC No:	215-269-1
Registration:	01-2119502447-44-XXXX

[1] Substance to which a community exposure limit applies in the workplace (see section 8.1).

3.2 Mixtures.

Not Applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. **NEVER** use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. **NEVER** induce vomiting.

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

No known acute or delayed effects from exposure to the product.

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

In cases of doubt, or when symptoms of discomfort persist, seek medical attention. Never give anything by mouth to people who are unconscious.

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SECTION 5: FIREFIGHTING MEASURES.

The product does not present any particular risk in case of fire.

5.1 Extinguishing media.

Recommended extinguishing methods.

Extinguishing powder or CO₂. In case of more serious fires also alcohol-resistant foam and water spray.

5.2 Special hazards arising from the substance.

Special risks.

The fire can produce a thick black smoke. As a result of thermal decomposition, hazardous products may be formed: carbon monoxide, carbon dioxide. Exposure to products of combustion or decomposition can be harmful to health.

5.3 Advice for firefighters.

Refrigerate tanks, cisterns or containers near the source of heat or fire with water. Take into account the direction of the wind. Prevent products used in fire fighting from entering drains, sewers or water courses. Product remains and extinguishing media can contaminate the aquatic environment.

Fire protection equipment.

Depending on the magnitude of the fire, it may be necessary to wear protective clothing against heat, self-contained breathing apparatus, gloves, goggles or face masks and boots.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Product dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

The contaminated area should be immediately cleaned with an appropriate de-contaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

For personal protection, see section 8. Never use pressure to empty containers, they are not pressure-resistant containers.

In the area of application, smoking, eating and drinking should be prohibited.

Comply with legislation on safety and hygiene at work.

Keep the product in containers of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe the indications of the tag. Store the containers between 5 and 35°C, in a dry and well-ventilated place, away from sources of heat and direct sunlight. Keep lejad from ignition points. Keep away from oxidizing agents and strongly acidic or alkaline materials. No smoking, Eviatr entry to unauthorized persons. Once the containers are opened, they must be closed carefully and placed vertically to avoid spills.

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Classification and storage threshold amount according to Annex I of Directive 2012/18 / EU (SEVESO III):

Code	Description	Threshold quantity (tonnes) for the purposes of applying the	
		Lower level requirements	Upper level requirements
E1	Dangerous for the environment - Hazardous to the aquatic environment in the acute 1 or chronic 1 categories	100	200

7.3 Specific end use(s).

Pyrotechnical mixtures

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Exposure limit during work for:

Name	N. CAS	Country	Limit value	ppm	mg/m ³
Copper oxide	1317-38-0	Spain [1]	Eight hour		0,2 (Fumes, as Cu) 1 (Powder y Fog, as Cu)
			Short terms		

[1] According to the list of Environmental Limits of Professional Exposition adopted by the National Institute of Safety and Hygiene at Work (INSHT) for the year 2016.

The product does NOT contain substances with Biological Limit Values.

Name	Details	Value
Copper oxide (II) N.CAS: 1317-38-0 N.CE: 215-269-1	Aqua (freshwater)	7,8 (µg/l)
	Aqua (marine wáter)	5,2 (µg/l)
	STP	230 (µg/l)
	Sediment (freswater)	87 (mg/kg sediment dw)
	Sediment (marine wáter)	676 (mg/kg sediment dw)
	Suelo	65 (mg/kg soil dw)

PNEC: Predicted No Effect Concentration, (concentración prevista sin efecto) concentración de la sustancia por debajo de la cual no se esperan efectos negativos en el comportamiento medioambiental.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Concentration:	100 %
Uses:	Pyrotechnical compositions
Breathing protection:	
PPE:	Particle filter mask
Characteristics:	«CE» marking, category III. Made of filtering material, it covers nose, mouth and chin.
CEN standards:	EN 149



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Maintenance:	Check for any tears, defects, etc. before use. Since it is disposable individual protection equipment, it should be replaced after use.		
Observations:	Does not protect worker unless properly adjusted. Follow the manufacturer's instructions regarding suitable use of the equipment.		
Filter Type needed:	P2		
Hand protection:			
PPE:	Work gloves.		
Characteristics:	«CE» marking, category I.		
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420		
Maintenance:	Keep in a dry place, away from any sources of heat, and avoid exposure to sunlight as much as possible. Do not make any changes to the gloves that may alter their resistance, or apply paints, solvents or adhesives.		
Observations:	Gloves should be of the appropriate size and fit the user's hand well, not being too loose or too tight. Always use with clean, dry hands.		
Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480
		Material thickness (mm):	0,35
Eye protection:			
PPE:	Protective goggles against particle impacts.		
Characteristics:	«CE» marking, category II. Eye protector against dust and smoke.		
CEN standards:	EN 165, EN 166, EN 167, EN 168		
Maintenance:	Visibility through lenses should be ideal. Therefore, these parts should be cleaned daily. Protectors should be disinfected periodically following the manufacturer's instructions.		
Observations:	Some signs of wear and tear include: yellow colouring of the lenses, superficial scratching of the lenses, scraping etc.		
Skin protection:			
PPE:	Work footwear.		
Characteristics:	«CE» marking, category II.		
CEN standards:	EN ISO 13287, EN 20347		
Maintenance:	This product adapts to the first user's foot shape. That is why, as well as for hygienic reasons, it should not be used by other people.		
Observations:	Work footwear for professional use includes protection elements aimed at protecting users against any injury resulting from an accident		



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance: Solid - powder
Colour: Black
Odour: Odourless
Odour threshold: N.A./N.A.
pH: 7 a 20 °C (5%)
Melting point: 1326 °C
Boiling Point: N.A./N.A.
Flash point: N.A./N.A.
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): inflammable
Lower Explosive Limit: N.A./N.A.
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density: N.A./N.A.
Relative density: 6,48 g/cm³
Solubility: insoluble
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.

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Auto-ignition temperature: N.A./N.A.
Decomposition temperature: >1026°C
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

9.2 Other information.

Pour point: N.A./N.A.
Blink: N.A./N.A.
Kinematic viscosity: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present dangers due to its reactivity

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

The product does not present the possibility of dangerous reactions.

10.4 Conditions to avoid.

Avoid any type of incorrect handling

10.5 Incompatible materials.

Keep away from oxidizing agents and strongly alkaline or acidic materials, in order to avoid exothermic reactions.

10.6 Hazardous decomposition products.

It does not decompose if it is intended for the intended uses..

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.

Repeated or prolonged contact with the product may cause the removal of the skin's grease, resulting in a non-allergic contact dermatitis and the product being absorbed through the skin.

Splashes in the eyes can cause irritation and reversible damage.

Toxicological informacion

Name	Acute toxiciti			
	Type	test	Species	Value
Copper oxide (II) N.CAS: 1317-38-0 N.CE: 215-268-1	Oral	LD50	Rat	>2500 mg/kg bw
	Skin	LD50	Rat	>2000 mg/kg bw
	Inhalation			

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- a) acute toxicity;
Not conclusive data for classification.
- b) skin corrosion/irritation;
Not conclusive data for classification.
- c) serious eye damage/irritation;
Not conclusive data for classification.
- d) respiratory or skin sensitisation;
Not conclusive data for classification.
- e) germ cell mutagenicity;
Not conclusive data for classification.
- f) carcinogenicity;
Not conclusive data for classification.
- g) reproductive toxicity;
Not conclusive data for classification.
- h) STOT-single exposure;
Not conclusive data for classification.
- i) STOT-repeated exposure;
Not conclusive data for classification.
- j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

No information is available regarding the ecotoxicity.

12.2 Persistence and degradability.

No information is available regarding biodegradability.

No information is available regarding degradability.

There is no information available on the persistence and degradability of the product.

12.3 Bioaccumulative potencial.

No information is available regarding the bioaccumulation.

12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

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SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

14.1 UN number.

UN No: UN3077

14.2 UN proper shipping name.

Description:

ADR: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS COPPER OXIDE), 9, PG III

IMDG: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS COPPER OXIDE), 9, PG III, MARINE POLLUTANT

ICAO: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS COPPER OXIDE), 9, PG III

14.3 Transport hazard class(es).

Class(es): 9

14.4 Packing group.

Packing group: III

14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

14.6 Special precautions for user.

Labels: 9



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Hazard number: 90
ADR LQ: 5 kg
IMDG LQ: 5 kg
ICAO LQ: 30 kg B

Provisions concerning carriage in bulk ADR:

VC1 Carriage in bulk in sheeted vehicles, sheeted containers or sheeted bulk containers is permitted.

VC2 Carriage in bulk in closed vehicles, closed containers or closed bulk containers is permitted.

Transport by ship, FEm – Emergency sheets (F – Fire, S – Spills): F-A,S-F

Proceed in accordance with point 6.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code.

The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

Classification of the product in accordance with Annex I of Directive 2012/18 / EU (SEVESO III): E1

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION.

Classification codes:

Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1

Sections changed compared with the previous version:

2,3,4,5,7,8,9,10,11,12

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CEN: European Committee for Standardization.

PPE: Personal protection equipment.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Code for Dangerous Goods.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:

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<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2015/830.

Regulation (EC) No 1907/2006.

Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.