

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**Trade name **Copper(II) hydroxide**

Stock number: 32733

CAS Number: 20427-59-2

EC number: 243-815-9

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


Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet


Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com

Informing department:**1.4 Emergency telephone number:**


Product safety Tel + +049 (0) 7275 988687-0
Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**
 GHS06 skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.

 GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

 GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.


Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

 GHS07


Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.


STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
 T; Toxic


R23: Toxic by inhalation.

 Xn; Harmful

R22: Harmful if swallowed.

 Xi; Irritant

R37/38-41: Irritating to respiratory system and skin. Risk of serious damage to eyes.

 N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms****Signal word****Hazard statements**

The substance is classified and labelled according to the CLP regulation.

GHS05, GHS06, GHS09

Danger

H302 Harmful if swallowed.

H330 Fatal if inhaled.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

P284

Wear respiratory protection.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P320

Specific treatment is urgent (see on this label).

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards**Results of PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**3.1 Substances**

CAS# Designation: 20427-59-2 Copper(II) hydroxide

Identification number(s):

EC number: 243-815-9

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Instantly remove any clothing soiled by the product.

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After inhalation

Remove breathing apparatus only after soiled clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.
Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.
Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Use fire fighting measures that suit the environment.

Suitable extinguishing agents**5.2 Special hazards arising from the substance or mixture**

If this product is involved in a fire, the following can be released:
Metal oxide

5.3 Advice for firefighters**Protective equipment:**

Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Ensure adequate ventilation
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:

Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

Prevention of secondary hazards:

No special measures required.

6.4 Reference to other sections

See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.

Information about protection against explosions and fires:

The product is not flammable

7.2 Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:

No special requirements.

Further information about storage conditions:

Store away from water.
Store away from oxidizing agents.
Store under dry inert gas.
This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to technical experts or their assistants.
No further relevant information available.

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters**Components with critical values that require monitoring at the workplace:****20427-59-2 Copper(II) hydroxide (100,0%)**

MAK (Germany)	0,1E mg/m ³
MAK (TRGS 900) (Germany)	1 E mg/m ³ 25; (DFG)

Additional information:

No data

8.2 Exposure controls**Personal protective equipment**
General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Store protective clothing separately.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment:**Protection of hands:**

Use self-contained respiratory protective device in emergency situations.
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Material of gloves**Penetration time of glove material****Eye protection:**

Impervious gloves
Not determined
Tightly sealed safety glasses.
Face protection

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according to 1907/2006/EC, Article 31

Revision: 07.08.2012

Printing date 01.07.2013

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Body protection: Protective work clothing.

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SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****General Information****Appearance:**

Form: Powder
Colour: Blue
Smell: Odourless
Odour threshold: Not determined.

pH-value: Not applicable.

Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Inflammability (solid, gaseous): Not determined.

Ignition temperature: Not determined.

Decomposition temperature: Not determined.

Self-inflammability: Not determined.

Critical values for explosion:

Lower: Not determined

Upper: Not determined

Steam pressure: Not applicable.

Density at 20 °C: 3,4 g/cm³

Relative density: Not determined.

Vapour density: Not applicable.

Evaporation rate: Not applicable.

Solubility in / Miscibility with

Water: Insoluble

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity: No information known.

10.2 Chemical stability: Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions: Reacts with strong oxidizing agents

10.5 Incompatible materials: Water/moisture

Oxidizing agents

10.6 Hazardous decomposition products: Metal oxide

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute toxicity: Harmful if swallowed.

Fatal if inhaled.

LD/LC50 values that are relevant for classification:

Oral LD50 1000 mg/kg (rat)

Inhalative LC50/4H 0,5 mg/l/4H (rat)

Skin irritation or corrosion: Causes skin irritation.

Eye irritation or corrosion: Causes serious eye damage.

Sensitization: No sensitizing effect known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause respiratory irritation.

Aspiration hazard: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information**12.1 Toxicity**

Aquatic toxicity: No further relevant information available.

12.2 Persistence and degradability: No further relevant information available.

12.3 Bioaccumulative potential: No further relevant information available.

12.4 Mobility in soil: No further relevant information available.

Ecotoxicological effects:

Remark: Very toxic for fish

Additional ecological information: Do not allow material to be released to the environment without proper governmental permits.
Water danger class 3 (Self-assessment): extremely hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Recommendation: Hand over to disposers of hazardous waste.

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DE/E

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Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation:

Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number ADR, IMDG, IATA	UN3288
14.2 UN proper shipping name ADR IMDG, IATA	3288 TOXIC SOLID, INORGANIC, N.O.S. (Copper(II) hydroxide) TOXIC SOLID, INORGANIC, N.O.S. (Copper(II) hydroxide)
14.3 Transport hazard class(es) ADR	
	
Class Label IMDG, IATA	6.1 (T5) Toxic substances. 6.1
	
Class Label	6.1 Toxic substances. 6.1
Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards:	Environmentally hazardous substance, solid
14.6 Special precautions for user Kemler Number:	Warning: Toxic substances. 60
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR Excepted quantities (EQ): Limited quantities (LQ) Transport category Tunnel restriction code	E1 5 kg 2 E
UN "Model Regulation":	UN3288, TOXIC SOLID, INORGANIC, N.O.S. (Copper(II) hydroxide), 6.1, III

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Australian Inventory of Chemical
Substances

Substance is listed.

Standard for the Uniform Scheduling of
Drugs and Poisons

Substance is not listed.

National regulations

Information about limitation of use:

Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.

Water hazard class:

Water danger class 3 (Self-assessment): extremely hazardous for water.

Other regulations, limitations and prohibitive
regulations
ELINCS (European List of Notified Chemical
Substances)

Substance is not listed.

Substances of very high concern (SVHC)
according to REACH, Article 57

Substance is not listed.

REACH - Pre-registered substances

Substance is listed.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet:

Health, Safety and Environmental Department.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

DE/E