1 Identification

Product identifier

Product name: Copper(I) oxide

Stock number: 40188

CAS Number: 1317-39-1

EC number: 215-270-7

Index number: 029-002-00-X

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS07

Signal word Warning

Hazard statements
H302 Harmful if swallowed.

Precautionary statements

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/…/if you feel unwell.
P330 Rinse mouth.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification Not controlled

Classification system

HMIS ratings (scale 0-4) (Hazardous Materials Identification System)

Health (acute effects) = 2
Flammability = 0
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:
1317-39-1 Copper(I) oxide

Identification number(s):
EC number: 215-270-7

Index number: 029-002-00-X

4 First-aid measures

Description of first aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

Information for doctor

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.
5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents: Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Metal oxide fume

Advice for firefighters

Protective equipment:
- Wear self-contained respirator.
- Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13.

Prevention of secondary hazards: No special measures required.

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 disposal information.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Prevent formation of dust.

Information about protection against explosions and fires: The product is not flammable

Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Store away from oxidizing agents.

Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

Specific end use(s): No further relevant information available.

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.

Control parameters

Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: No data

Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:
Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Material of gloves: Butyl rubber, BR

Penetration time of glove material (in minutes): Not determined

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties
General information

Appearance:
- Form: Powder
- Color: Purple to dark red
- Odor: Odorless
- Odor threshold: Not determined

pH-value: Not applicable.

Change in condition
- Melting point/Melting range: 1235 °C (2255 °F)
- Boiling point/Boiling range: 1800 °C (3272 °F) (dec)
- Sublimation temperature/ start: Not determined
- Flammability (solid, gaseous): Not determined
- Ignition temperature: Not determined
- Decomposition temperature: Not determined
- Auto igniting: Not determined

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:

Lower: Not determined
Upper: Not determined

Vapor pressure:

Not applicable.

Density at 20 °C (68 °F): 6 g/cm³ (50.07 lbs/gal)

Relative density: Not determined.

Evaporation rate: Not applicable.

Solubility in / Miscibility with Water: Insoluble.

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

Vapor density: Not applicable.

Viscosity:

dynamic: Not applicable.

kinematic: Not applicable.

Other information: No further relevant information available.

10 Stability and reactivity

Reactivity

No information known.

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

Reacts with strong oxidizing agents

Conditions to avoid

No further relevant information available.

Incompatible materials:

Air

Oxidizing agents

Water/moisture

Hazardous decomposition products: Metal oxide fume

11 Toxicological information

Information on toxicological effects

Acute toxicity:

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 470 mg/kg (rat)

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

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

Aspiration hazard: No effects known.

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

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

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

12 Ecological information

Toxicity

Aquatic toxicity: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecotoxicology:

Remark: Very toxic for aquatic organisms

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

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

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number

DOT, IMDG, IATA: UN3077

UN proper shipping name

Environmentally hazardous substances, solid, n.o.s. (Copper(I) oxide)

DOT

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper(I) oxide)
Transport hazard class(es)
DOT, IMDG

Class
Label
Class
Label
IATA

Class
Label

9 Miscellaneous dangerous substances and articles.
9 (M7) Miscellaneous dangerous substances and articles
9

Packing group
DOT, IMDG, IATA

III

Environmental hazards:
Special marking (ADR):
Special marking (IATA): Symbol (fish and tree)

Special precautions for user
EMS Number:
Warning: Miscellaneous dangerous substances and articles F-A,S-F

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:
DOT

Marine Pollutant (DOT): No

UN "Model Regulation": UN3077, Environmentally hazardous substances, solid, n.o.s. (Copper(I) oxide), 9, III

15 Regulatory information
Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)
Hazard pictograms

GHS07

Signal word Warning
Hazard statements
H302 Harmful if swallowed.

Precautionary statements
P264 Wash thoroughly after handling.
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National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)
1317-39-1 Copper(I) oxide

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 SDS: Global Marketing Department

Date of preparation / last revision 11/23/2015 / -

Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
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
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
Product name: Copper(I) oxide

OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)