Copper(I) Cyanide	Pricing >

Linear Formula	CuCN
Pubchem CID	11009
MDL Number	MFCD00010975
EC No.	208-883-6
IUPAC Name	copper(1+); cyanide
Beilstein/Reaxys No.	3587244
SMILES	[Cu]C#N
Inchl Identifier	InChI=1S/CN.Cu/c1-2;/q-1;+1
Inchl Key	DOBRDRYODQBAMW-UHFFFAOYSA-N

Signal Word	Danger
Hazard Statements	H300-H310-H330-H410
Hazard Codes	T+, N
Precautionary Statements	P260-P262-P264-P270-P271-P273-P280-P284-P301+P310-P302+P350+P310-P304+P340+P310-P361-P363-P391-P403+P233-P405-P501
Risk Codes	26/27/28-32-50/53
Safety Statements	7-28-29-45-60-61
RTECS Number	GL7150000
Transport Information	UN 1587 6.1/PG 2
WGK Germany	2
GHS Pictograms	GHS06 Skull and Crossbones  GHS09 Environment 

Create Printable PDF

SAFETY DATA SHEET

Date Accessed: 05/04/2024
Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #544-92-3

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:

Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
Acute toxicity, Oral (Category 2), H300
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 1), H310
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

Signal word: Danger
Hazard statement(s):
H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.
H410 Very toxic to aquatic life with long lasting effects.
Precautionary statement(s):
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P262 Do not get in eyes, on skin, or on clothing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P284 Wear respiratory protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P302 + P350 + P310 IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P361 Remove/Take off immediately all contaminated clothing.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.
Hazards not otherwise classified (HNOC) or not

covered by GHS:
Contact with acids liberates very toxic gas.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
Synonyms : Cuprous cyanide
Formula : CCuN
Molecular weight : 89.56 g/mol
CAS-No. : 544-92-3
EC-No. : 208-883-6
Index-No. : 006-007-00-5
Hazardous components
Component: Copper (I) Cyanide
Classification: Acute Tox. 2; Acute Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H300 + H310 +H330, H410
Concentration: 90 - 100 %

SECTION 4. FIRST AID MEASURES

General advice:
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.
If inhaled:
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact:
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
In case of eye contact:
Flush eyes with water as a precaution.
If swallowed:
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Most important symptoms and effects, both acute and delayed:
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed:
No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media:
Dry powder

Special hazards arising from the substance or mixture:
No data available
Advice for firefighters:
Wear self-contained breathing apparatus for firefighting if necessary.
Further information:
No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Methods and materials for containment and cleaning up:
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.
Provide appropriate exhaust ventilation at places where dust is formed.
Conditions for safe storage, including any incompatibilities:
Keep container tightly closed in a dry and well-ventilated place.
Never allow product to get in contact with water during storage. Do not store near acids.
Store under inert gas. Air sensitive.
Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters:
Component: Copper(I) Cyanide
CAS-No.: 544-92-3
Value: TWA / C / TWA / C / PEL / PEL
Control parameters: 5mg/m3 / 5mg/m3 / 1mg/m3 / 4.7ppm, 5mg/m3 / 1mg/m3 / 5mg/m3
Basis: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants / USA. ACGIH Threshold Limit Values (TLV) / USA. NIOSH Recommended Exposure Limits / USA. NIOSH Recommended Exposure Limits / California permissible exposure limits for chemical contaminants (Title 8, Article 107) / California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Exposure controls
Appropriate engineering controls:
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
Personal protective equipment
Eye/face protection:
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection:
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection:
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection:
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the

environment must be avoided

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Form: solid
Odour No data available
Odour Threshold No data available
pH No data available
Melting point/freezing point
Melting point/range: 474 °C (885 °F)
Initial boiling point and boiling range: No data available
Flash point No data available
Evaporation rate No data available
Flammability (solid, gas) No data available
Upper/lower flammability or explosive limits: No data available
Vapour pressure No data available
Vapour density No data available
Relative density 2.92 g/cm3 at 25 °C (77 °F)
Water solubility No data available
Partition coefficient: noctanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity No data available
Explosive properties No data available
Oxidizing properties No data availabl

SECTION 10. STABILITY AND REACTIVITY

Reactivity:
No data available
Chemical stability:
Stable under recommended storage conditions.
Possibility of hazardous reactions:
No data available
Conditions to avoid:
No data available
Incompatible materials:
acids, Oxidizing agents, Bases, Nitrates, Magnesium
Hazardous decomposition products:
Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NOx), Copper oxides
Other decomposition products - No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity:
LD50 Oral - Rat - 1,265 mg/kg
No data available
Skin corrosion/irritation:
No data available
Serious eye damage/eye irritation:
No data available
Respiratory or skin sensitisation:
No data available
Germ cell mutagenicity:
No data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
Reproductive toxicity:
No data available
Specific target organ toxicity - single exposure:
No data available
Specific target organ toxicity - repeated exposure:
No data available
Aspiration hazard:
No data available
Additional Information:
RTECS: Not available
Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis., Dermatitis, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:

No data available
Persistence and degradability:
No data available
Bioaccumulative potential:
No data available
Mobility in soil:
No data available
Results of PBT and vPvB assessment:
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
Other adverse effects:
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Product:
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging:
Dispose of as unused product

SECTION 14. TRANSPORT INFORMATION

DOT (US)
UN number: 1587 Class: 6.1 Packing group: II
Proper shipping name: Copper cyanide
Reportable Quantity (RQ): 10 lbsMarine pollutant:yes
Poison Inhalation Hazard: No
IMDG
UN number: 1587 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: COPPER CYANIDE
Marine pollutant:yes Marine pollutant: yes
IATA
UN number: 1587 Class: 6.1 Packing group: II
Proper shipping name: Copper cyanide

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:
Copper cyanide
CAS-No.
544-92-3
SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components
Copper cyanide
CAS-No.
544-92-3
Pennsylvania Right To Know Components
Copper cyanide
CAS-No.
544-92-3
Copper cyanide
CAS-No.
544-92-3
New Jersey Right To Know Components
Copper cyanide
CAS-No.
544-92-3
California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

---

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.