

Issue Date 24-Apr-2015

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Version 1

1. IDENTIFICATION

Product identifier

Product Name Cupriethylenediamine, 0.5 Molar

Other means of identification

Product Code 1705

UN/ID no. UN1761

Synonyms CUED, bis(ethylenediamine)copper(II), bis(eyhylenediamine)copper (2+)

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730

www.harrellindustries.com

Emergency telephone number

Company Phone Number 803-327-6335

Fax Number 803-327-7808

24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

Causes severe skin burns and eye damage



DANGER!! CORROSIVE. Irritant to skin, eyes, and upper respiratory tract.

Appearance Deep purple liquid

Physical state liquid

Odor Faint

Precautionary Statements - Prevention

Do not breathe dust.

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see .? on this label)

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

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

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

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

May be harmful if swallowed

Unknown acute toxicity

0.15% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance**Synonyms**

CUED, bis(ethylenediamine)copper(II), bis(eyhylenediamine)copper (2+).

Formula

$\text{Cu}(\text{NH}_2\text{CH}_2\text{CH}_2\text{NH}_2)_2(22\%); \text{H}_2\text{O}(78\%)$

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	77.5
Cupriethylenediamine	13426-91-0	22.5

4. FIRST AID MEASURES

Description of first aid measures**Eye contact**

Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Call a physician immediately.

Skin contact

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician immediately. Wash clothing before reuse.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion

If swallowed, DO NOT INDUCE VOMITTING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed**Symptoms**

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray may be used to keep fire exposed containers cool and will also reduce fumes and irritant gases.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. An explosion hazard exists upon prolonged storage of this product. Studies have not been found with measured shelf-life predictions for this product. The product does appear to be stable for at least one month.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Absorb small spills with inert materials (e.g., vermiculite, dry sand, earth). Carefully sweep up the material and place in an appropriate container for disposal. Do not flush into sewer.

7. HANDLING AND STORAGE**Precautions for safe handling**

Advice on safe handling Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids). Keep sealed under nitrogen. Do not open bottles stored for more than six months.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Packaging materials This material is safe when contained in glass but will rapidly dissolve paper. It should not be stored in cardboard containers.

Incompatible materials Acids. Carbon dioxide, oxygen.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Cupriethylenediamine 13426-91-0	TWA: 1 mg/m ³ Cu dust and mist	-	IDLH: 100 mg/m ³ Cu dust and mist TWA: 1 mg/m ³ Cu dust and mist

Appropriate engineering controls**Engineering Controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Faint
Appearance	Deep purple liquid	Odor threshold	No information available
Color	Deep purple		
Property	Values	Remarks • Method	
pH	12		
Melting point / freezing point	No information available		
Boiling point / boiling range	No information available		
Flash point	No information available		
Evaporation rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	No information available		
Vapor density	No information available		
Relative density	No information available		
Water solubility	Soluble in water		
Solubility in other solvents	No information available		
Partition coefficient	No information available		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Kinematic viscosity	No information available		
Dynamic viscosity	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable for one month under ordinary conditions of use and storage. Keep protected from exposure to air or carbon dioxide.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Will not occur.

Conditions to avoid

Heat. Air exposure.

Incompatible materials

Acids. Carbon dioxide, oxygen.

Hazardous Decomposition Products

Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

No data available

Inhalation

Inhalation of most may cause coughing, choking, with variable symptoms of headache, dizziness, and weakness. May cause lung edema.

Eye contact

Corrosive. Red, pain, blurred vision can occur. Can cause burns and permanent eye damage.

Skin contact

Corrosive. Redness, pain and skin burns can occur.

Ingestion

Corrosive. Sore throat, severe abdominal pain, vomiting, and tissue damage may occur.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Cupriethylenediamine 13426-91-0	= 750 mg/kg (Rat)	> 8 g/kg (Rabbit)	-

Information on toxicological effects

Symptoms

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity

STOT - single exposure

STOT - repeated exposure

Target Organ Effects

Eyes, Skin, Respiratory system, Central nervous system, liver, kidney.

Aspiration hazard

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Toxic to aquatic life.

Ecotoxicity

When released into the soil, this material may biodegrade to a moderate extent. When released into the soil this product may leach into the ground water.

22.5% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

Bioaccumulation

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Contaminated packaging Do not reuse container.

Chemical Name	California Hazardous Waste Status
Cupriethylenediamine 13426-91-0	Toxic

14. TRANSPORT INFORMATION

DOT Regulated
UN/ID no. UN1761
Proper shipping name Cupriethylenediamine Solution
Hazard Class 8
Subsidiary class (6.1)
Packing Group II
Reportable Quantity (RQ) 4 L
Marine pollutant Toxic to aquatic life.

TDG Regulated
UN/ID no. UN1761
Proper shipping name Cupriethylenediamine Solution
Hazard Class 8
Subsidiary class 6.1
Packing Group II

MEX Regulated
UN/ID no. UN1761
Proper shipping name Cupriethylenediamine Solution
Hazard Class 8
Packing Group II

ICAO (air)	Regulated
UN/ID no.	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II
IATA	Regulated
UN/ID no.	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II
IMDG	Regulated
UN/ID no.	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II
Marine pollutant	This material meets the definition of a marine pollutant
Description	4L
RID	Regulated
UN/ID no.	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II
ADR	Regulated
UN/ID no.	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II
ADN	Regulated
UN Number	UN1761
Proper shipping name	Cupriethylenediamine Solution
Hazard Class	8
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Chemical Name	SARA 313 - Threshold Values %
Cupriethylenediamine - 13426-91-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard No

Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Cupriethylenediamine 13426-91-0	-	X	-	-

CERCLA**US State Regulations****California Proposition 65****U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Cupriethylenediamine 13426-91-0	X	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health hazards 3	Flammability 0	Instability 0	Physical and Chemical Properties -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection X

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Revision Note

No information available

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet