

**GELEST, INC.**

11 East Steel Rd. Morrisville, PA 19067  
Phone: (215) 547-1015

MATERIAL SAFETY  
DATA SHEET

EMERGENCY TELEPHONE  
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **COPPER II FORMATE, tetrahydrate - CXCU045**

CHEMICAL NAME: COPPER II FORMATE, tetrahydrate

SYNONYMS: CUPRIC FORMATE; FORMIC ACID, COPPER SALT

CHEMICAL FAMILY: COPPER COMPOUND

FORMULA:  $C_2H_2O_4Cu$

HMIS CODES HEALTH: 3 FLAMMABILITY: 1 REACTIVITY: 0

**INGREDIENTS**

IDENTITY	CAS NO.	%	TLV
COPPER II FORMATE, tetrahydrate	544-19-4	>95	not established (ACGIH TLV-TWA: 1mg/m <sup>3</sup> as Cu)

**PHYSICAL DATA**

Boiling Point: NA  
Specific Gravity: 1.81  
Vapor Density: NA  
% volatiles: <3

Molecular Weight: 153.58/225.64  
Appearance & Color: Blue-green solid

Melting Point: 130°C - decomposes  
Vapor Pressure, 25°: not determined  
Solubility in water: soluble  
Evaporation rate: NA  
Other: NA

**FIRE & EXPLOSION DATA**

Flash Point, COC: NA Autoignition Temp.: not determined  
Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: Water spray, foam, carbon dioxide, dry chemical.

Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

-1-(CXCU045)

## ENVIRONMENTAL INFORMATION

Spill response: Sweep material and transfer to a suitable container for disposal.

Recommended Disposal: Dispose of as solid waste. Follow all chemical pollution control regulations.

## HEALTH HAZARD DATA

Eye Contact: May cause immediate or delayed severe eye irritation.

Skin contact: May produce irritation or contact dermatitis. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation of dust or particulates may irritate the respiratory tract.

Oral Toxicity: not determined

Chronic Toxicity: Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination and kidney defects.

### SUGGESTED FIRST AID

**EYES:** In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

**SKIN:** Flush with water, then wash with soap and water.

**INHALATION:** Move exposed individual to fresh air. Administer oxygen if needed. Call a physician.

**INGESTION:** Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

## REACTIVITY DATA

Stability: Stable at room temperature.

Conditions to avoid: Oxidizing agents, soluble carbonates and phosphates, sulfuric acid.

Hazardous decomposition products: Organic acid and organic vapors and copper oxide fumes.

-2-(CXC045)

## SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV, NIOSH approved dust and mist respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

## OTHER PRECAUTIONS

For research and industrial use only.

Storage and Handling: Store in sealed containers.

## TRANSPORTATION

DOT SHIPPING NAME: None required

DOT HAZARD CLASS: None required

DOT LABEL: None required

DOT ID No: None required

Prepared by safety and environmental affairs

ISSUE DATE CXCU045: 3/31/03

SUPERSEDES: 4/10/00

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore.

-3-(CXCU045)