

# MATERIAL SAFETY DATA SHEET

**BARFOED REAGENT**  
**CAROLINA BIOLOGICAL SUPPLY COMPANY**

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Revised 1/04/96  
Replaces 12/04/95  
Printed 8/01/96

## 1. PRODUCT DESCRIPTION

Product Name: Barfoed Reagent  
Product Code(s): 84-6623  
Size: 500 mL  
Chemical Name: Does not apply, product is a mixture.  
CAS Number: Does not apply, product is a mixture.  
Formula: See section 2  
Synonyms: None known  
Distributor: Carolina Biological Supply Company  
2700 York Road  
Burlington, NC 27302  
Chemical Emergency Information: 910-584-0381 (8am-5pm (ET) M-F)  
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Principle Hazardous Components:  
Acetic Acid, Glacial (CAS# 64-19-7) 1%  
Cupric Acetate (CAS# 142-71-2) 6.65%  
TLV and PEL units:  
Acetic Acid, Glacial: ACGIH-TLV 10 ppm (TWA),  
STEL 15 ppm; OSHA-PEL 10 ppm (TWA).  
Cupric Acetate: ACGIH-TLV 1 mg(Cu)/m3;  
OSHA-PEL 1 mg(Cu)/m3.

## 3. HAZARD IDENTIFICATION

Emergency Overview:  
Potential Health Effects:  
Eyes: May cause irritation.  
Skin: May cause irritation.  
Ingestion: May cause gastrointestinal discomfort.  
Inhalation: May cause irritation to respiratory tract.

## 4. FIRST AID MEASURES

Emergency and First Aid Procedures:  
Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.  
Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.  
Ingestion - If swallowed, if conscious, give plenty of water and induce vomiting immediately as directed by medical personnel. Immediately call a physician or poison control center. Never give anything by mouth to an unconscious person.  
Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm, quiet, and get medical attention.

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5. FIREFIGHTING PROCEDURES

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Flash Point (Method Used): Not applicable

NFPA Rating: Health: 1

Fire: 0

Reactivity: 0

Extinguisher Media: Use media suitable to extinguish surrounding fire.

Use media suitable to extinguish surrounding fire.

Flammable Limits in Air % by Volume: Not acceptable

Autoignition Temperature: No data available.

Special Firefighting Procedures:

Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: If heated to thermal decomposition, this product may evolve toxic fumes of Copper. This product will not burn. This product will not explode.

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6. SPILL OR LEAK PROCEDURES

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Steps to be Taken in Case Material is Released or Spilled:

Ventilate area of spill. Eliminate all sources of ignition. Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbant and containerize for disposal.

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7. SPECIAL PRECAUTIONS

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Precautions to be Taken in Handling or Storing: Store tightly closed in a cool, dry, well ventilated area suitable for general chemical storage. Wash thoroughly after handling.

Other Precautions: Avoid contact with eyes, skin, and clothing. Do not take internally.

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8. SPECIAL PROTECTION INFORMATION

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Respiratory Protection (Specify Type):

A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

Ventilation:

Local Exhaust: Yes

Mechanical (General): Yes

Special: No

Other: No

Protective Gloves:

Rubber, neoprene, PVC, or equivalent.

Eye Protection:

Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:

Lab coat, eye wash, and safety shower.



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**9. PHYSICAL DATA**

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Molecular Weight: No data available.

Melting Point: No data available.

Boiling Point: Approximately 100C

Vapor Pressure: No data available.

Vapor Density(Air=1): No data available.

Specific Gravity(H2O=1): Less than 1

Percent Volatile by Volume: Approximately 94%

Evaporation Rate(H2O=1): Approximately 1 (water)

Solubility in Water: Complete, product is an aqueous solution

Appearance and Odor: Clear, light blue solution with slight odor of acetic acid.

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**10. REACTIVITY DATA**

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Stability: Stable

Conditions to Avoid: No data available.

Incompatibility(Materials to Avoid): Water reactive materials.

Hazardous Decomposition Products: Copper fumes.

Hazardous Polymerization: Will not occur

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**11. TOXICITY DATA**

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Toxicity Data: To the best of our knowledge, the toxicological properties of this mixture have not been thoroughly evaluated. Data is listed for individual components (RTECS, 1986).

Acetic Acid, Glacial: ihl-rat LCLo: 16000 ppm/4H

orl-rat LD50: 3530 mg/kg.

Cupric Acetate: ipr-mus LD50: 2500 ug/kg

orl-rat LD50: 595 mg/kg.

Effects of Overexposure:

Acute: See section 3

Chronic: Acetic Acid, Glacial: Mutation data cited. Reproductive effects data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Cupric Acetate: Reproductive effects data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Conditions Aggravated by Overexposure: No data available.

Target Organs: No data available.

Primary Route(s) of Entry: Inhalation

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**12. ECOLOGICAL DATA**

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EPA Waste Numbers: Acetic Acid, Glacial D002, D001.

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**13. DISPOSAL INFORMATION**

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Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations.

Always contact a permitted waste disposer (TSD) to assure compliance.

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**14. TRANSPORT INFORMATION**

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DOT Proper Shipping Name: Non-regulated material.

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**15. REGULATORY INFORMATION**

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EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Acute

Product or Components	SARA EHS Sec. 302 TPQ	SARA Sec. 313 Chemicals Name Chemical List Category	CERCLA Sec. 103 RQ lbs.	RCRA Sec. 261.33	
Acetic Acid, Glacial	No	No	No	5000	No
Cupric Acetate	No	No	Copper Compounds	100	No

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**16. ADDITIONAL INFORMATION**

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The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

**Glossary**

ACGIH.....American Conference of Governmental Industrial Hygienists  
CAS Number....Chemical Services Abstract Number  
CWA.....Clean Water Act  
DOT.....U.S. Department of Transportation  
IARC.....International Agency of Research on Cancer  
IATA.....International Air Transport Association  
IMO.....International Maritime Organization  
N/A.....Not Available  
NTP.....National Toxicology Program  
OSHA.....Occupational Safety and Health Administration  
PEL.....Permissible Exposure Limit  
ppm.....parts per million  
RTECS.....Registry of Toxic Effects of Chemical Substances  
(published by the National Institute of Occupational Safety and Health, NIOSH)  
TLV.....Threshold Limit Value