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## MATERIAL SAFETY DATA SHEET

B  
CAROLINA BIOLOGICA L

Revised: 09/05/00  
Replaces: None  
Printed: 24/08/00

### 1. PRODUCT DESCRIPTION

Product Name: Biuret Reagent  
Product Code(s): 84-8211, 8 -8213, Q -2340, Q -2341, Q -1026  
Size: 1 oz, 120 mL, 500 mL  
Chemical Name: Does not apply-product is a mixture.  
CAS Number: None assigned to this mixture - see individual elements below  
Formula: See section 2  
Synonyms: None known  
Distributor: Carolina Biological Supply Company  
2700 York Road  
Burlington, NC 2721

Chemical Information: 800-227-1150 (8a -5pm (ET)M -F)  
Chemtrec (Transportation Spill Response 24 hours): 800 -424-9300

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Principle Hazardous Components:  
Copper Sulfate, 5-Hydrate (CAS# 7758-99-8) 1.7%  
Ethylene Glycol (CAS# 107-21-1) 9.3%  
Sodium Hydroxide (CAS# 1310-73-2) 16.7%  
TLV (Units): Water: None established.  
Cupric Sulfate, 5-Hydrate: ACGIH-TLV 1 mg/m3  
(Dust/Mists as Cu) (TWA); OSHA-PEL 1 mg/m3  
(Dust/Mists as Cu) (TWA)  
Ethylene Glycol: ACGIH-TLV Ceiling 50 ppm (vapor & mists);  
OSHA -PEL Ceiling 50 ppm  
Sodium Hydroxide: ACGIH-TLV Ceiling 2 mg/m3;  
OSHA -PEL Ceiling 2 mg/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 - Do not induce vomiting. If swallowed, if conscious, give plenty of water immediately and 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**

Flash Point (Method Used): Not applicable

NFPA Rating: None assigned for this product.

Extinguisher Media:

Use media suitable to extinguish surrounding fire.

Flammable Limits in Air % by Volume: Not applicable

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: This material will not burn. This material will not explode.

### **6. SPILL OR LEAK PROCEDURES**

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 absorbent and containerize for disposal.

### **7. SPECIAL PRECAUTIONS**

Precautions to be Taken in Handling or Storing: Store tightly closed in a cool, dry area suitable for the storage of caustic materials. Wash thoroughly after handling.

Other Precautions: Do not take internally.

### **8. SPECIAL PROTECTION INFORMATION**

Respiratory Protection (Specify Type):

Ventilation:

Local Exhaust: Acceptable

Mechanical (General): Preferred

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.

### **9. PHYSICAL DATA**

Molecular Weight: No data available.

Melting Point: No data available.

Boiling Point: No data available.

Vapor Pressure: No data available.

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

Specific Gravity (H<sub>2</sub>O=1): No data available.

Percent Volatile by Volume: No data available.

Evaporation Rate (H<sub>2</sub>O=1): No data available.

Solubility in Water: Complete, product is an aqueous solution

Appearance and Odor: Clear, Blue solution with no odor

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### **10. REACTIVITY DATA**

Stability: Stable

Conditions to Avoid: None Known

Incompatibility (Materials to Avoid): Water reactive materials, strong acids.

Hazardous Decomposition Products: If heated to thermal decomposition, this material may give rise to toxic fumes of copper and/or oxides of carbon.

Hazardous Polymerization: Will not occur

### **11. TOXICITY DATA**

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.

Copper Sulfate, 5-Hydrate: orl-hmn TDLo: 272 mg/kg,  
ipr-mam LD50: 7500 ug/kg.

Ethylene Glycol: ihl-hmn TCLo: 10000 mg/m3,  
orl-hmn LDLo: 398 mg/kg.

Sodium Hydroxide: ipr-mus LD50: 40 mg/kg,  
orl-rbt LDLo: 500 mg/kg.

Effects of Overexposure:

Acute: See section 3

Chronic: Copper Sulfate, 5-Hydrate, Ethylene Glycol, and Sodium Hydroxide: Mutation data cited. Not listed as causing cancer by IAE, NTP, or OSHA.

Conditions Aggravated by Overexposure: No data available.

Target Organs: Skin, liver, kidneys, nervous system.

Primary Route(s) of Entry: Inhalation, skin contact

### **12. ECOLOGICAL DATA**

EPA Waste Numbers: No data available.

### **13. DISPOSAL INFORMATION**

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

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

### **14. TRANSPORT INFORMATION**

Description: Corrosive liquids, n.o.s. (Sodium Hydroxide), 8, UN1760, II

### **15. REGULATORY INFORMATION**

EPA TSCA Status: On TSCA Inventory

Hazard Category for SARA Section 311/312 Reporting: Acute Reactive

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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				

Copper Sulfate, 5-Hydrate	No	No	Copper Compound	No	No
Ethylene Glycol	No	Yes	No	No	No
Sodium Hydroxide	No	No	No	1000	No

### 16. ADDITIONAL INFORMATION

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  
CERCLA.....Comprehensive Environmental Response, Compensation, and Liability Act  
DOT.....U.S. Department of Transportation  
IARC.....International Agency of Research on Cancer  
N/A.....Not Available  
NTP.....National Toxicology Program  
OSHA.....Occupational Safety and Health Administration  
PEL.....Permissible Exposure Limit  
ppm.....parts per million  
RCRA.....Resource Conservation and Recovery Act  
SARA.....Superfund Amendments and Reauthorization Act  
TLV.....Threshold Limit Value  
TSCA.....Toxic Substances Control Act