

# Safety Data Sheet

## Biuret Reagent

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Biuret Reagent  
**Recommended Use:** Science education applications  
**Synonyms:** Biuret Solution  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

**GHS Classification:**

Skin Corrosion/Irritation Category 1A, Hazardous to the aquatic environment - Chronic Category 3

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	67.04
Sodium Hydroxide	1310-73-2	20.6
Ethylene Glycol 100%	107-21-1	10.3
Copper (II) Sulfate, 5-Hydrate	7758-99-8	2.06

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.  
**Ingestion:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use media suitable to extinguish surrounding fire.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.  
**Hazardous Combustion Products:** Copper compounds, Sodium Oxides, Potassium Oxide, Iodine (gas), Carbon dioxide, Carbon monoxide

# Safety Data Sheet

## Section 6

## Spill or Leak Procedures

### Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits.

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid breathing dust/fume/gas/mist/vapors/spray.

### Environmental Precautions: Methods for Clean-up

Avoid breathing material. Avoid contact with skin and eyes. Reduce airborne dust and prevent scattering by moistening with water. Ventilate the area by opening door and/or turning on fans and blowers. Avoid runoff into storm sewers and ditches that lead to waterways. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Avoid runoff into storm sewers and ditches that lead to waterways.

## Section 7

## Handling and Storage

### Handling:

Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin.

### Storage:

Store locked up. Keep container tightly closed in a cool, well-ventilated place.

### Storage Code:

White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

## Section 8

## Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Sodium Hydroxide	N/A	N/A	2 mg/m <sup>3</sup> TWA	N/A
Copper (II) Sulfate, 5-Hydrate	1 mg/m <sup>3</sup> TWA (dust and mist, as Cu)	N/A	N/A	N/A

### Control Parameters

#### Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

#### Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

#### Respiratory Protection:

Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

#### Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

#### Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

#### Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

#### Gloves:

Natural latex, Nitrile, Nitrile - Extra Thick (8 mm), Neoprene

## Section 9

## Physical Data

**Formula:** This product is a mixture.

**Molecular Weight:** This product is a mixture.

**Appearance:** Blue Liquid

**Odor:** None

**Vapor Pressure:** No data available

**Evaporation Rate (BuAc=1):** No data available

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

**Specific Gravity:** No data available

# Safety Data Sheet

**Odor Threshold:** No data available  
**pH:** No data available  
**Melting Point:** No data available -12 C  
**Boiling Point:** No data available  
**Flash Point:** 111 C  
**Flammable Limits in Air:** No data available

**Solubility in Water:** Soluble  
**Log Pow (calculated):** No data available  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** No data available

## Section 10

## Reactivity Data

**Reactivity:** Not generally reactive under normal conditions.  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** None known.  
**Incompatible Materials:** Water-reactive materials, Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes, Acetaldehydes, Aluminum alloys, Caustics (bases), Strong acids, Strong oxidizing agents, Hydroxylamine, Hypobromite, Magnesium  
**Hazardous Decomposition Products:** Carbon dioxide, Carbon monoxide, Iodine (gas), Potassium Oxide, Sodium Oxides, Copper compounds  
**Hazardous Polymerization:** Will not occur

## Section 11

## Toxicity Data

**Routes of Entry:** Ingestion, skin and eye contact., Inhalation and ingestion.  
**Symptoms (Acute):** N/A  
**Delayed Effects:** No data available

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Ethylene Glycol 100%	107-21-1	Oral LD50 Rat = 4700 mg/kg	Dermal LD50 Rabbit = 10626 C	
Copper (II) Sulfate, 5-Hydrate	7758-99-8	Oral LD50 Rat = 300 mg/kg	Dermal LD50 Rat > 2000 mg/kg	

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.

### Target Organ Effects:

**Acute:** See Section 2  
**Chronic:** Mutation data cited., Reproductive data cited., Not listed as a carcinogen by IARC, NTP or OSHA.

# Safety Data Sheet

## Section 12

## Ecological Data

**Overview:** Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Keep out of waterways.  
**Mobility:** No data  
**Persistence:** Dissolved into water, Adsorbs to soil., Chemically Transformed  
**Bioaccumulation:** No data  
**Degradability:** No data  
**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Sodium Hydroxide	1310-73-2	Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L
Ethylene Glycol 100%	107-21-1	96 HR LC50 POECILIA RETICULATA 16000 MG/L [STATIC] 96 HR LC50 PIMEPHALES PROMELAS 40000 - 60000 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 40761 MG/L [STATIC] 96 HR LC50 LEPOMIS MACROCHIRUS 27540 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 14 - 18 ML/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 41000 MG/L 48 HR EC50 DAPHNIA MAGNA 46300 MG/L 96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 6500 - 13000 MG/L
Copper (II) Sulfate, 5-Hydrate	7758-99-8	96 HR LC50 PIMEPHALES PROMELAS 0.6752 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 0.09 - 0.19 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 0.1478 - 0.165 MG/L [FLOW-THROUGH] 96 HR LC50 LEPOMIS MACROCHIRUS 0.96 - 1.8 MG/L [STATIC] 96 HR LC50 LEPOMIS MACROCHIRUS 0.66 - 1.15 MG/L [SEMI-STATIC] 48 HR EC50 DAPHNIA MAGNA 0.147 - 0.227 MG/L [STATIC]

## Section 13

## Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
**Waste Disposal Code(s):** If discarded, this product is considered a RCRA corrosive waste, D002.

## Section 14

## Transport Information

**Ground - DOT Proper Shipping Name:**  
UN1824  
Sodium Hydroxide Solution  
Class 8  
P.G. III

**Air - IATA Proper Shipping Name:**  
UN1824  
Sodium Hydroxide Solution  
Class 8  
P.G. III

# Safety Data Sheet

## Section 15

## Regulatory Information

**TSCA Status:**

All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No
Ethylene Glycol 100%	107-21-1	Ethylene glycol	No	5000 lb final RQ; 2270 kg final RQ	No	No
Copper (II) Sulfate, 5-hydrate	7758-99-8	No	No	No	No	No

**California Prop 65:**WARNING: Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## Section 16

## Additional Information

**Revised: 03/22/2024****Replaces: 08/07/2019****Printed: 01-17-2025**

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.

**Glossary**

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health