Safety Data Sheet

Biuret Reagent

CAROLINA®
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 27215-3398
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. Causes serious eye damage. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

GHS Classification:
Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 3, Hazardous to the aquatic environment - Chronic Category 3

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	90.3
Sodium Hydroxide	1310-73-2	6.42
Potassium Sodium Tartrate, 4-hydrate	6381-59-5	1.65
Copper (II) Sulfate, 5-Hydrate	7758-99-8	1.18
Potassium Iodide	7681-11-0	0.35
EDTA, Disodium Salt, Dihydrate	6381-92-6	0.02

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

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. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

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

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Sodium Hydroxide	N/A	N/A	2 mg/m3 TWA	N/A
Potassium Sodium Tartrate, 4-hydrate	N/A	N/A	N/A	N/A
Copper (II) Sulfate, 5-Hydrate	1 mg/m3 TWA (dust and mist, as Cu)	N/A	N/A	N/A
Potassium Iodide	0.01 ppm TWA (inhalable fraction and vapor)	N/A	N/A	N/A
EDTA, Disodium Salt, Dihydrate	N/A	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: See Section 3
Molecular Weight: No data available
Appearance: Blue Liquid
Odor: None
Odor Threshold: No data available
pH: No data available
Melting Point: No data available
Boiling Point: No data available
Flash Point: No data available
Flammable Limits in Air: No data available
Vapor Pressure: No data available
Evaporation Rate (BuAc=1): No data available
Vapor Density (Air=1): No data available
Specific Gravity: 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

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Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Elevated temperatures
Incompatible Materials:	Water-reactive materials, Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes, Calcium Salts, Lead salts, Strong acids, Strong oxidizing agents, Silver Nitrate, 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.
Symptoms (Acute): Laxative effect, Vomiting , Nausea , Hypotension, Diarrhea, Hepatitis
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat Not applicable 90 g/kg		
Sodium Hydroxide	1310-73-2		Dermal LD50 Rabbit 1350 mg/kg	
Potassium Sodium Tartrate, 4-hydrate	6381-59-5			
Copper (II) Sulfate, 5-Hydrate	7758-99-8	Oral LD50 Rat 300 mg/kg	Dermal LD50 Rat > 2000 mg/kg	
Potassium Iodide	7681-11-0			
EDTA, Disodium Salt, Dihydrate	6381-92-6			

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed
Potassium Sodium Tartrate, 4-hydrate	6381-59-5	Not listed	Not listed	Not listed
Copper (II) Sulfate, 5-hydrate	7758-99-8	Not listed	Not listed	Not listed
Potassium Iodide	7681-11-0	Not listed	Not listed	Not listed
EDTA, Disodium Salt, Dihydrate	6381-92-6	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: Kidneys, Liver, Gastrointestinal tract, Thyroid
Chronic: Kidneys, Liver, Eyes, Thyroid

Section 12 Ecological Data

Overview:	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.
Mobility:	No data
Persistence:	Dissolved into water, Adsorbs to soil. , Chemically Transformed, Photodegradation
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
Potassium Sodium Tartrate, 4-hydrate	6381-59-5	
Copper (II) Sulfate, 5-Hydrate	7758-99-8	96 HR LC50 PIMEPHALES PROMELAS 0.6752 MG/L [STATIC]

Potassium Iodide	7681-11-0
EDTA, Disodium Salt, Dihydrate	6381-92-6

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

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
Potassium Sodium Tartrate, 4-hydrate	6381-59-5	No	No	No	No	No
Copper (II) Sulfate, 5-hydrate	7758-99-8	No	No	No	No	No
Potassium Iodide	7681-11-0	No	No	No	No	No
EDTA, Disodium Salt, Dihydrate	6381-92-6	No	No	No	No	No

Section 16 Additional Information

Revised: 04/15/2013 **Replaces: None** **Printed: 06-21-2013**

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