



Material Safety Data Sheet

Biuret reagent

Section 1 - Chemical Product and Company Identification

MSDS Name:

Biuret reagent

Catalog Numbers:

LC11690

Synonyms:

Biuret reagent for protein analysis

Company Identification:

LabChem, Inc.
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
7758-99-8	Copper (ii) sulfate pentahydrate (1:1:5)	<1
6381-59-5	Potassium sodium tartrate	<1
1310-73-2	Sodiumhydroxide	4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Clearblue

Danger! Corrosive. Causes skin burns. Causes eye burns. Causes digestive tract burns. Causes respiratory tract burns.

Target Organs: None.

Potential Health Effects

Eye:

Causes severe eye burns.



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Skin:

Causes skin burns. May cause deep, penetrating ulcers of the skin.

Ingestion:

Causes gastrointestinal tract burns. Causes severe pain, nausea, vomiting, diarrhea, and shock.

Inhalation:

Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Individuals with Wilson's disease are unable to metabolize copper. Thus, copper accumulates in various tissues and may result in liver, kidney, and brain damage. Copper salts may also cause extensive damage to the kidneys, liver, and capillaries with CNS depression, hemolytic anemia, joint pain, gastric hemorrhage and joint pain indicating intoxication. Relatively large doses of dry sodium potassium tartrate (2-4 gm) may have a cathartic effect.

Section 4 - First Aid Measures

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until chemical is gone. Get medical aid at once. Cover burns with loose sterile non-medicated bandages.

Skin:

Get medical aid at once. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Remove contaminated clothing and shoes. Cover burns with a dry sterile bandage (secure, not tight).

Ingestion:

Do NOT induce vomiting. Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once. Medical personnel may do esophagoscopy, irrigate injured area with 1% acetic acid to neutralize alkali.

Inhalation:

Give artificial respiration if necessary. If breathing is difficult, give oxygen. Get medical aid. Keep victim warm, at rest. Move victim to fresh air.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:

Wear appropriate protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Use water with caution and in flooding amounts. Negligible fire and explosion hazard when exposed to heat or flame.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Autoignition Temperature:

Not applicable.

Flash Point:

Not applicable.

NFPA Rating:

CAS# 7732-18-5: Not published.



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CAS# 7758-99-8: Not published.

CAS# 6381-59-5: Not published.

CAS# 1310-73-2: Not published.

Explosion Limits:

Lower: No information Upper: No information

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spills with absorbent (vermiculite, sand, fuller's earth) and place in plastic bags for later disposal. Material may be neutralized to pH 7 with citric acid or other suitable neutralizing agent.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
Copper (ii) sulfate pentahydrate (1:1:5)	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
Potassium sodium tartrate	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
Sodium hydroxide	None of the components are on this list.	None of the components are on this list.	2 mg/m ³ TWA;

OSHA Vacated PELs

Personal Protective Equipment

Eyes:

Wear appropriate protective eye glasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

Skin:

Wear appropriate gloves to prevent skin exposure.



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Clothing:

Wear alkali resistant protective clothing.

Respirators:

Provide local exhaust or process enclosure to meet Permissible Exposure Limits (PEL). Not required for normal use.

100 mg/m³: HiEPF/SAF/SCBAF.

200 mg/m³: PAPHiEF/SAF: PD, PP, CF.

Escape: DMXSF/SCBAF.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: Clear blue

Odor: Not available.

pH: Alkaline

Vapor Pressure: No information found.

Vapor Density: No information found.

Evaporation Rate: No information found.

Viscosity: >1 (ether=1)

Boiling Point: 212°F (100.00°C)

Freezing/Melting Point: 32°F (0.00°C)

Decomposition Temperature: No information found.

Solubility in water: No information found.

Specific Gravity/Density: >1.0

Molecular Formula: Not applicable.

Molecular Weight: No information found.

Section 10 - Stability and Reactivity

Chemical Stability:

Stable.

Conditions to Avoid:

Incompatible materials, acids.

Incompatibilities with Other Materials

Acetaldehyde, acrolein, acrylonitrile, allyl alcohol, aluminum, chlorine trifluoride, chloronitrotoluenes, halogenated organics (e.g. dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), maleic anhydride, metals, nitromethane, nitroparaffins, nitropropanes, phenols, 3-methyl-2-pentene-4-yn-1-ol) pentol, phosphorus pentoxide, tetrachlorobenzene/methyl alcohol, tetrahydrofuran, trichloroethylene.

Hazardous Decomposition Products

Oxides of sulfur, toxic fumes of sodium oxide, sodium peroxide fumes, oxides of potassium.

Hazardous Polymerization

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 7732-18-5: ZC0110000.



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CAS# 7758-99-8: GL8900000.

CAS# 6381-59-5 unlisted.

CAS# 1310-73-2: WB4900000.

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg.

CAS# 7758-99-8:

Oral, rat: LD50 = 300 mg/kg.

CAS# 6381-59-5:

No information found. CAS# 1310-73-2:

No information found.

Carcinogenicity:

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 7758-99-8: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 6381-59-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

CAS# 1310-73-2: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:

Sodium hydroxide solutions-an irritant and corrosive to eye, skin, and mucous membranes.

Copper sulfate solutions-may irritate eyes, skin, respiratory, and mucous membranes. Poisoning may affect the central nervous system, liver, kidneys, and capillaries.

Teratogenicity:

No information reported.

Reproductive:

No information reported.

Mutagenicity

Mutation data reported.

Neurotoxicity

No information reported.

Section 12 - Ecological Information

Ecotoxicity:

TLm, mosquito fish, 125 ppm/96hr. (fresh water); TLm, bluegill, 99 mg/48hr.(tap water).

Environmental:

Once liquid, sodium hydroxide leaches rapidly into the soil.

Physical:

No information found.

Other:

No information found.



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Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Sodium hydroxide solution

Hazard Class: 8

UN Number: UN1824

Packing Group: PG II

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 7758-99-8 is not listed on the TSCA Inventory. It is for research and development use only.

CAS# 6381-59-5 is not on the TSCA Inventory, however, it is anhydrous form is on the inventory and so its hydrate is exempt from TSCA Inventory requirements (40CFR270.3(u)(2)).

CAS# 1310-73-2 is listed on the TSCA Inventory.

SARA Reportable Quantities (RQ)

CAS# 1310-73-2: final RQ = 1000 pounds (454 kg)

CERCLA/SARA Section 313

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

US State

State Right to Know

Sodium hydroxide can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations

European/International Regulations

Canadian DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 1310-73-2 is listed on Canada's DSL List.

Canada Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7758-99-8 is not listed on Canada's Ingredient Disclosure List.

CAS# 6381-59-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List.



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Section 16 - Other Information

MSDS Creation Date: July 21, 1998

Revision Date: October 7, 2008

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