

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Biuret Reagent  
Product code : LC11690

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Aquatic Acute 3 H402

#### 2.2. Label elements

##### GHS-US labelling

Hazard statements (GHS-US) : H402 - Harmful to aquatic life  
Precautionary statements (GHS-US) : P273 - Avoid release to the environment  
P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable  
Full text of H-phrases: see section 16

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	99.24	Not classified
Sodium Potassium Tartrate, Tetrahydrate	(CAS No) 6381-59-5	0.6	Not classified
Copper (II) Sulfate, Pentahydrate	(CAS No) 7758-99-8	0.15	Acute Tox. 3 (Oral), H301 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Sodium Hydroxide	(CAS No) 1310-73-2	0.01	Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed

Obtain medical assistance.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment	: Safety glasses. Gloves.
Emergency procedures	: Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
-------------------------	--

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.
-------------------------------	--

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Sodium Hydroxide (1310-73-2)

USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
-----------	------------------------------------	---------------------

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Sodium Hydroxide (1310-73-2)

USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
----------	-------------------------------------	---------------------

#### 8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Respiratory protection	: Wear appropriate mask.
Other information	: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Blue.
Odour	: None.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Miscible with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 10.6. Hazardous decomposition products

Sulfur compounds. fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg

Sodium Hydroxide (1310-73-2)	
LD50 dermal rabbit	1350 mg/kg (Rabbit; Literature,Rabbit; Literature)

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LD50 oral rat	300 mg/kg (482 mg/kg bodyweight; Rat; Rat; Experimental value,482 mg/kg bodyweight; Rat; Rat; Experimental value)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Likely routes of exposure : Skin and eyes contact

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Harmful to aquatic life.

Biuret Reagent	
LC50 fishes 1	66.7 mg/l

Sodium Hydroxide (1310-73-2)	
LC50 fishes 1	45.4 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Solution >=50%)
EC50 Daphnia 1	40.4 mg/l (48 h; Ceriodaphnia sp.; Nominal concentration)
LC50 fish 2	189 mg/l (48 h; Leuciscus idus)
TLM fish 1	99 mg/l (48 h; Lepomis macrochirus)
TLM fish 2	125 ppm (96 h; Gambusia affinis)

Copper (II) Sulfate, Pentahydrate (7758-99-8)	
LC50 fishes 1	1.5 mg/l (24 h; Lepomis macrochirus; Toxicity test)
EC50 Daphnia 1	0.109 - 0.798 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	0.17 mg/l (24 h; Salmo gairdneri (Oncorhynchus mykiss); Anhydrous form)
TLM fish 1	3.8 ppm 24 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit algae 1	0.01 - 0.28,72 h; Selenastrum capricornutum; Anhydrous form
Threshold limit algae 2	0.368 mg/l (72 h; Pseudokirchneriella subcapitata; Anhydrous form)

### 12.2. Persistence and degradability

Biuret Reagent	
Persistence and degradability	Not established.

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)</b>	
Persistence and degradability	Not established.

<b>Water (7732-18-5)</b>	
Persistence and degradability	Not established.

<b>Sodium Hydroxide (1310-73-2)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test) data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>Copper (II) Sulfate, Pentahydrate (7758-99-8)</b>	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>Biuret Reagent</b>	
Bioaccumulative potential	Not established.

<b>Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)</b>	
Bioaccumulative potential	Not established.

<b>Water (7732-18-5)</b>	
Bioaccumulative potential	Not established.

<b>Sodium Hydroxide (1310-73-2)</b>	
Bioaccumulative potential	Bioaccumulation: not applicable.

<b>Copper (II) Sulfate, Pentahydrate (7758-99-8)</b>	
Bioaccumulative potential	Bioaccumable. Not established.

### 12.4. Mobility in soil

<b>Copper (II) Sulfate, Pentahydrate (7758-99-8)</b>	
Ecology - soil	Toxic to flora.

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description :

### Transport by sea

No additional information available

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Sodium Hydroxide (1310-73-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

RQ (Reportable quantity, section 304 of EPA's List of Lists) : 1000 lb

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

#### Copper (II) Sulfate, Pentahydrate (7758-99-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists) : 10 lb

### 15.2. International regulations

#### CANADA

#### Biuret Reagent

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

#### Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

#### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Uncontrolled product according to WHMIS classification criteria

#### Sodium Hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class E - Corrosive Material

#### Copper (II) Sulfate, Pentahydrate (7758-99-8)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects

### EU-Regulations

No additional information available

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

### 15.2.2. National regulations

#### Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)

Not listed on the Canadian Ingredient Disclosure List

#### Water (7732-18-5)

Not listed on the Canadian Ingredient Disclosure List

# Biuret Reagent

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Sodium Hydroxide (1310-73-2)

Listed on the Canadian Ingredient Disclosure List

### Copper (II) Sulfate, Pentahydrate (7758-99-8)

Listed on the Canadian Ingredient Disclosure List

### 15.3. US State regulations

No additional information available

## SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, Category 1
Aquatic Acute 3	Hazardous to the aquatic environment — AcuteHazard, Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H301	Toxic if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

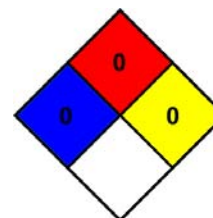
: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012)

*Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.*