

**Kit SDS Cover Sheet**Doc. ID: OSR6132-75: Rev. 05  
Revised (year/month/day) 2015/05/05**Product Information**

<b>Product Name</b>	<b>Total Protein</b>
<b>Part Number</b>	OSR6132, OSR6232, OSR6632

**Components**

<b>Description</b>	Total Protein R1 Total Protein R2
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**Transport Information**

<b>Shipping Information</b>	<b>IATA</b>	<b>IMDG</b>	<b>US DOT</b>	<b>European ADR</b>	<b>Canadian TDG</b>
<b>UN/ID Number</b>	1824	1824	1824	1824	1824
<b>Shipping Name</b>	Sodium hydroxide solution				
<b>Hazard Class</b>	8 Corrosives	8 Corrosive substances	8 Corrosive material	8 Corrosive substances	8 Corrosives
<b>Subsidiary Risk</b>	None	None	None	None	None
<b>Classification Code</b>	Not applicable	Not applicable	Not applicable	C5	Not applicable
<b>Packing Group</b>	II	II	II	II	II
<b>Special Provisions</b>	A3	None	N34	None	None
<b>Additional information</b>					
<b>IATA ERG Code</b>	8L	Not applicable	Not applicable	Not applicable	Not applicable
<b>EmS</b>	Not applicable	F-A, S-B	Not applicable	Not applicable	Not applicable
<b>NAERG Code</b>	Not applicable	Not applicable	154	Not applicable	154
<b>Environmental Hazards</b>					
<b>Marine Pollutant</b>	Not applicable	No	Not applicable	Not applicable	Not applicable

**Special Precautions for user**

Warning: Corrosive substances.



## SAFETY DATA SHEET

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### Section 1 Identification of the Substance/mixture and of the Company/undertaking

#### 1.1 Product Identifier

**Product Name** Total Protein R1  
**Part Number** Component of P/N OSR6132, OSR6232, OSR6632

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

**Product Use** For In Vitro Diagnostic Use. See product literature for details.

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

##### Manufacturer

Beckman Coulter, Inc.  
250 S. Kraemer Blvd  
Brea, CA 92821, U.S.A.  
Tel: 800-854-3633

##### EC REP Address

Beckman Coulter Ireland Inc.  
Lismeehan  
O'Callaghan's Mills  
Co. Clare  
Ireland  
Tel: 353 (0)65 6831100

##### e-mail address

SDSNT@beckman.com  
Further information Contact:  
Customer support Unit, Beckman Coulter Ireland Inc.  
Technical Service Department Tel. +001-800-854-3633 (PST)  
E-mail CC\_Support.ie@beckman.com

#### 1.4 Emergency telephone number

**Telephone number (24H)** Chemtrec Emergency Tel No. U.S.A. 800-424-9300, International (001) 703-527-3887  
Tel +353 (0)65 683 1170; 08:00 - 16:30 hrs Mon-Thur, 08:00 - 15:30 hrs Fri (GMT) Tel +001-800-223-0130 (PST)

##### Distributor and Emergency Phone No.

Refer to attached list, Document ID: [472050](#), for local distributor and emergency phone numbers.

### Section 2 Hazards Identification

#### 2.1 Classification of substance or mixture

**Product Description** In vitro diagnostic reagent.  
For full text of R- phrases: see Section 16.  
Colorless; Clear; Liquid; Odorless

**Classification according to EC 1272/2008 (CLP/GHS)**  
Skin Corrosion Category 1  
Eye Damage Category 1

## Section 2 Hazards Identification (Continued)

### Classification according to EC Directives 1999/45/EC and 67/548/EEC

C;R34

### Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS

Skin Corrosion Category 1

Eye Damage Category 1

#### 2.2 Label Elements

#### According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

##### Hazardous Ingredients

Sodium Hydroxide

##### Pictogram



##### Signal Word

DANGER

##### Hazard Statements

H314 Causes severe skin burns and eye damage.

##### Precautionary Statements

P280 Wear protective gloves, protective clothing and eye/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Rinse skin with water.

P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/national regulations

Product label will display most significant precautionary statements.

#### 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

## Section 3 Composition and Information on Ingredients

### 3.2 Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients			
Chemical Name	% by wt.	EU-67/548/EEC	EU 1272/2008 CLP/GHS	GHS	

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## Section 3 Composition and Information on Ingredients (Continued)

Sodium Hydroxide CAS # 1310-73-2 EINECS # 215-185-5 Index # 011-002-00-6	1 - 5	C;R 35	Eye Dam. 1 Skin Corr. 1A H314; H318	Eye Dam. 1 Skin Corr. 1A H314; H318	
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See section 8 for available Occupational exposure limits

See Section 15 for additional regulatory information

See Section 16 for hazard class, hazard statements and risk phrase description

## Section 4 First Aid Measures

### 4.1 Description of first aid measures

<b>Inhalation</b>	If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.
<b>Eye Contact</b>	If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open and obtain medical attention immediately.
<b>Skin Contact</b>	In case of skin contact, flush with copious amounts of water for at least 15 minutes. If pain or irritation occur, obtain medical attention.
<b>Ingestion</b>	If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

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

Corrosive. May cause burns to eyes, skin and respiratory tract.  
See Section 11 Toxicological Information for more detailed health information.

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

If eye irritation persists: Get medical advice/attention.

## Section 5 Fire Fighting Measures

**Flammable Properties** Nonflammable aqueous solution.

**5.1 Extinguishing Media** In case of fire use carbon dioxide (CO<sub>2</sub>), dry chemical, water spray or foam.  
For large fires use extinguishing media suitable for surrounding fire.

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

#### Special Fire and Explosion Hazards

No special hazards determined.

#### Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (an aqueous solution).

## Section 5 Fire Fighting Measures (Continued)

### 5.3 Advice for fire fighters

#### Protective Equipment

Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

### 5.4 Additional information

No further relevant information available.

## Section 6 Accidental Release Measures

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

#### Personal Precautions

Observe general safety guidelines for protection; avoid eye and skin contact.  
Wear protective gloves, protective clothing and tightly sealed eye/face protection.

### 6.2 Environmental Precautions

Contain spill to prevent migration.  
Do not allow the undiluted product to enter sewers/surface or ground water.

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

#### Spill and Leak Procedures

Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

### 6.4 Reference to other sections

Refer sections 8 and 13.

## Section 7 Handling and Storage

### 7.1 Precautions for safe handling

Use good laboratory procedures; avoid eye and skin contact.

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

Store at 2 to 25°C , as directed on the product label.  
To maintain product quality, store according to the instructions in the product labeling.  
Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

### 7.3 Specific end uses

No further relevant information available.

## Section 8 Exposure Controls and Personal Protection

### 8.1 Control parameters

#### Exposure Limits

##### US OSHA

Sodium Hydroxide                      2 mg/m3 TWA  
CAS # 1310-73-2

##### ACGIH

Sodium Hydroxide                      2 mg/m3 Ceiling  
CAS # 1310-73-2

##### DFG MAK

None established

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### Section 8 Exposure Controls and Personal Protection (Continued)

#### Ireland

Sodium Hydroxide  
CAS # 1310-73-2 2 mg/m3 STEL

#### IOELVs

None established

#### NIOSH

Sodium Hydroxide  
CAS # 1310-73-2 10 mg/m3 IDLH

#### Japan

None established

#### 8.2 Exposure controls

##### Engineering Controls

No special engineering controls are required. Use with good general ventilation.

##### Eye Protection

Safety glasses or chemical goggles should be worn to prevent eye contact.  
Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.

##### Skin Protection

Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact.  
Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

##### Respiratory Protection

Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

### Section 9 Physical and Chemical Properties

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

<b>Physical State</b>	Liquid	<b>Specific Gravity (Water=1.0)</b>	1.03 @20°C
<b>Color</b>	Colorless	<b>Solubility</b>	
<b>Transparency</b>	Clear	<b>Water</b>	Fully miscible
<b>Odor</b>	Odorless	<b>Organic</b>	Not determined
<b>pH</b>	13 @20°C	<b>Partition coefficient: n-octanol/water</b>	Not determined
<b>Freezing Point</b>	Similar to water, approximately 0 °C	<b>Auto-ignition Temp.</b>	Product is not selfigniting
<b>Boiling Point</b>	Similar to water, approximately 100 °C	<b>Decomposition Temperature</b>	Not determined
<b>Flash Point</b>	Not applicable	<b>Percent Volatiles</b>	Not applicable
<b>Evaporation Rate</b>	Not determined	<b>Vapor Pressure</b>	Similar to water, approximately 23 hPa

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## Section 9 Physical and Chemical Properties (Continued)

<b>Flammability (Solid, Gas)</b>	Not applicable	<b>Viscosity</b>	Not determined
<b>Flammability Limits</b>	Not applicable	<b>Explosive Properties</b>	Not applicable
<b>Vapor Density</b>	Not determined	<b>Oxidizing Properties</b>	Not applicable
<b>Odor Threshold</b>	Not applicable		
<b>9.2 Other Information</b>	No further relevant information available.		

## Section 10 Stability and Reactivity

<b>10.1 Reactivity</b>	No further relevant information available.
<b>10.2 Chemical Stability</b>	The product is stable in accordance with recommended storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	No further relevant information available.
<b>10.4 Conditions to Avoid</b>	To maintain product performance keep away from strong acids, strong bases, strong oxidizers. Avoid exposure to heat and direct sunlight.
<b>10.5 Incompatible materials</b>	No further relevant information available.
<b>10.6 Hazardous Decomposition Products</b>	No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

## Section 11 Toxicological Information

<b>11.1 Information on toxicological effects</b>	
<b>Toxicity Data for Hazardous Ingredients</b>	
Sodium Hydroxide CAS # 1310-73-2	Dermal LD50 Rabbit 1350 mg/kg
<b>Primary Routes of Exposure</b>	Eye contact, ingestion, inhalation, and skin contact.
<b>Skin Corrosion/Irritation</b>	Contact may cause severe skin burns.
<b>Serious eye damage/eye irritation</b>	Contact may cause serious eye damage.
<b>Respiratory/skin sensitization</b>	No data available.
<b>Carcinogenicity</b>	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
<b>Germ cell mutagenicity</b>	No data available.
<b>Reproductive Toxicity</b>	No data available.

## Section 11 Toxicological Information (Continued)

### Specific target organ toxicity – single exposure

No data available.

### Specific target organ toxicity – repeated exposure

No data available.

### Aspiration hazard

No data available.

### Other Information

No further relevant information available.

## Section 12 Ecological Information

### 12.1 Ecotoxicity

#### Fresh Water Species

Sodium Hydroxide  
CAS # 1310-73-2

96 h LC50 Oncorhynchus mykiss: 45.4 mg/L [static]

#### Microtox

No information available.

#### Water Flea

No information available.

#### Fresh Water Algae

No information available.

### 12.2 Persistence and degradability

Not determined for the product.

### 12.3 Bioaccumulation

Not determined for the product.

### 12.4 Mobility in soil

Not determined for the product.

### 12.5 Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

### 12.6 Other Adverse Effects

No further relevant information available.

## Section 13 Disposal Considerations

### 13.1 Waste treatment methods

#### Product Waste Disposal

Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

#### Package disposal

Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

### 13.2 Additional information

Suggested European waste catalogue 18 01 06\* - chemicals consisting of or containing dangerous substances. Dispose in accordance with national, state and local waste regulations.



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## Section 14 Transport Information

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
<b>14.1 UN/ID Number</b>	1824	1824	1824	1824	PIN - 1824
<b>14.2 Shipping Name</b>	Sodium hydroxide solution				
<b>14.3 Hazard Class</b>	8 Corrosives	8 Corrosive substances	8 Corrosive material	8 Corrosive substances	8 Corrosives
<b>Subsidiary Risk</b>	None	None	None	None	None
<b>Classification Code</b>	Not applicable	Not applicable	Not applicable	C5	Not applicable
<b>14.4 Packing Group</b>	II	II	II	II	II
<b>Special Provisions</b>	A3	None	N34	None	None
<b>Additional information</b>					
<b>IATA ERG Code</b>	8L	Not applicable	Not applicable	Not applicable	Not applicable
<b>EmS</b>	Not applicable	F-A, S-B	Not applicable	Not applicable	Not applicable
<b>NAERG Code</b>	Not applicable	Not applicable	154	Not applicable	154
<b>14.5 Environmental Hazards</b>					
<b>Marine Pollutant</b>	Not applicable	No	Not applicable	Not applicable	Not applicable
<b>14.6 Special Precautions for user</b>	Warning: Corrosive substances.				
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable				

## Section 15 Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### US Federal and State Regulations

<b>SARA 313</b>	No ingredients listed.
<b>CERCLA RG's, 40 CFR 302.4</b>	Sodium Hydroxide is listed.
<b>California Proposition 65</b>	No ingredients listed.
<b>Massachusetts MSL</b>	Sodium Hydroxide is listed.
<b>New Jersey Dept. of Health RTK List</b>	Sodium Hydroxide is listed.

## Section 15 Regulatory Information (Continued)

### Pennsylvania RTK

Sodium Hydroxide is listed.

### EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

**Water Hazard Class (Germany)** WGK 1, low water endangering

**REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.**

No ingredients listed.

**According to EC Directives (1999/45/EC and 67/548 EEC)**

Corrosive

C



### Risk and Safety Phrases

R34 Causes burns.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 This material and/or its container must be disposed of as hazardous waste.

### Canada

This product is exempt from WHMIS label and SDS requirements.

**PIN**

1824

### Ingredients on Ingredient Disclosure List

Sodium Hydroxide

### Ingredients with unknown toxicological properties

Product is exempt

### 15.2 Chemical Safety Assessment A Chemical Safety Assessment has not been carried out.

*Some hazardous ingredients listed in Section 15 are below OSHAs and WHMIS' 1.0% w/w (0.1% for carcinogens) or EU's ingredient specific concentrations required for reporting in Section 3.*

## Section 16 Other Information

### Beckman Coulter Safety Rating

**Flammability: 0**  
**Health: 3**  
**Reactivity with Water: 0**  
**Contact: 3**

Code  
0=None  
1=Slight  
2=Caution  
3=Severe

### Revision Changes

Fixed the page numbering.

### Hazard Class, hazard statements and risk phrase description from section 3

C - Corrosive

R 35 Causes severe burns.

Eye Dam. 1 - Eye Damage Category 1

Skin Corr. 1A - Skin Corrosion Category 1A

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

## Section 16 Other Information (Continued)

### Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists  
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road  
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act  
CLP - Classification, Labeling and Packaging  
DFGMAK - Republic Germany's maximum exposure limit  
GHS - Globally Harmonized System  
HCS - Hazard Communication Standard  
IARC - International Agency for Research on Cancer  
IATA - International Air Transport Association  
ICAO - International Civil Aviation Organization  
IMDG - International Maritime Dangerous Goods  
IOELVs - European Unions' Indicative Occupational Exposure Limit Values  
NIOSH - National Institute for Occupational Safety and Health  
NTP - National Toxicology Program  
OSHA - Occupational Safety and Health Administration  
PBT - Persistent bioaccumulative and toxic substances  
SARA - Superfund Amendments and Reauthorization Act  
TDG - Canadian Transportation Of Dangerous Goods Regulations.  
UN GHS - United Nations Globally Harmonized System  
US DOT - United States Department of Transportation  
WHMIS - Workplace Hazardous Material Information System  
vPvB - Very persistent and very bioaccumulative substances  
LC50 - Lethal Concentration, 50%  
LD50 - Lethal Dose, 50%

For further information, please contact your local Beckman Coulter, Inc. representative.

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### Section 1 Identification of the Substance/mixture and of the Company/undertaking

#### 1.1 Product Identifier

**Product Name** Total Protein R2  
**Part Number** Component of P/N OSR6132, OSR6232, OSR6632

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

**Product Use** For In Vitro Diagnostic Use. See product literature for details.

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

##### Manufacturer

Beckman Coulter, Inc.  
250 S. Kraemer Blvd  
Brea, CA 92821, U.S.A.  
Tel: 800-854-3633

##### EC REP Address

Beckman Coulter Ireland Inc.  
Lismeehan  
O'Callaghan's Mills  
Co. Clare  
Ireland  
Tel: 353 (0)65 6831100

##### e-mail address

SDSNT@beckman.com  
Further information Contact:  
Customer support Unit, Beckman Coulter Ireland Inc.  
Technical Service Department Tel. +001-800-854-3633 (PST)  
E-mail CC\_Support.ie@beckman.com

#### 1.4 Emergency telephone number

**Telephone number (24H)** Chemtrec Emergency Tel No. U.S.A. 800-424-9300, International (001) 703-527-3887  
Tel +353 (0)65 683 1170; 08:00 - 16:30 hrs Mon-Thur, 08:00 - 15:30 hrs Fri (GMT) Tel +001-800-223-0130 (PST)

##### Distributor and Emergency Phone No.

Refer to attached list, Document ID: [472050](#), for local distributor and emergency phone numbers.

### Section 2 Hazards Identification

#### 2.1 Classification of substance or mixture

**Product Description** In vitro diagnostic reagent.  
For full text of R- phrases: see Section 16.  
Blue; Clear; Liquid; Odorless

##### Classification according to EC 1272/2008 (CLP/GHS)

Skin Corrosion Category 1  
Eye Damage Category 1  
Aquatic Hazard Long term, Category 3

## Section 2 Hazards Identification (Continued)

### Classification according to EC Directives 1999/45/EC and 67/548/EEC

Xi;R36/38-52/53

### Classification according to US-OSHA (HCS 29 CFR 1910.1200) and UN GHS

Skin Corrosion Category 1

Eye Damage Category 1

Aquatic Hazard Acute, Category 3

Aquatic Hazard Long term, Category 3

### 2.2 Label Elements

#### According to EC 1272/2008 (CLP/GHS), US-OSHA and UN GHS

##### Hazardous Ingredients

Sodium Hydroxide

Copper sulphate

##### Pictogram



##### Signal Word

DANGER

##### Hazard Statements

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

##### Precautionary Statements

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing and eye/face protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Rinse skin with water.

P304+P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/national regulations

Product label will display most significant precautionary statements. 7.1% of product contains ingredients of unknown hazards to aquatic environment.

### 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

See Section 11 Toxicological Information for more detailed health information.

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## Section 3 Composition and Information on Ingredients

### 3.2 Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients			
Chemical Name	% by wt.	EU-67/548/EEC	EU 1272/2008 CLP/GHS	GHS	
Copper sulphate CAS # 7758-98-7 EINECS # 231-847-6 Index # 029-004-00-0	0.5 - 1	Xn;R22-36/38 N;R50/53	Acute Tox. Oral 4 Aquatic Acute 1 Aquatic Longterm 1 Eye Irrit. 2 Skin Irrit. 2 H302; H315; H319; H400; H410	Acute Tox. Oral 4 Aquatic Acute 1 Aquatic Longterm 1 Eye Irrit. 2 Skin Irrit. 2 H302; H315; H319; H400; H410	
Sodium Hydroxide CAS # 1310-73-2 EINECS # 215-185-5 Index # 011-002-00-6	0.5 - 1	C;R 35	Eye Dam. 1 Skin Corr. 1A H314; H318	Eye Dam. 1 Skin Corr. 1A H314; H318	

See section 8 for available Occupational exposure limits

See Section 15 for additional regulatory information

See Section 16 for hazard class, hazard statements and risk phrase description

## Section 4 First Aid Measures

### 4.1 Description of first aid measures

#### Inhalation

If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.

#### Eye Contact

If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open and obtain medical attention immediately.

#### Skin Contact

In case of skin contact, flush with copious amounts of water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

#### Ingestion

If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

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

Corrosive. May cause burns to eyes, skin and respiratory tract.

See Section 11 Toxicological Information for more detailed health information.

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

If eye irritation persists: Get medical advice/attention.

## Section 5 Fire Fighting Measures

### Flammable Properties

Nonflammable aqueous solution.

### 5.1 Extinguishing Media

In case of fire use carbon dioxide (CO2), dry chemical, water spray or foam.  
For large fires use extinguishing media suitable for surrounding fire.

## Section 5 Fire Fighting Measures (Continued)

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

#### Special Fire and Explosion Hazards

No special hazards determined.

#### Hazardous Combustion Products

No combustion products posing significant hazards are expected from this product (an aqueous solution).

### 5.3 Advice for fire fighters

#### Protective Equipment

Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

### 5.4 Additional information

No further relevant information available.

## Section 6 Accidental Release Measures

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

#### Personal Precautions

Observe general safety guidelines for protection; avoid eye and skin contact.  
Wear protective gloves, protective clothing and tightly sealed eye/face protection.

### 6.2 Environmental Precautions

Contain spill to prevent migration.  
Do not allow the undiluted product to enter sewers/surface or ground water.  
Dispose of contents/container in accordance with local regulations

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

#### Spill and Leak Procedures

Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

### 6.4 Reference to other sections

Refer sections 8 and 13.

## Section 7 Handling and Storage

### 7.1 Precautions for safe handling

Use good laboratory procedures; avoid eye and skin contact.

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

Store at 2 to 25°C , as directed on the product label.  
To maintain product quality, store according to the instructions in the product labeling.  
Store away from strong acids, strong bases, strong oxidizers and incompatible materials (section 10).

### 7.3 Specific end uses

No further relevant information available.

## Section 8 Exposure Controls and Personal Protection

### 8.1 Control parameters

#### Exposure Limits

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### Section 8 Exposure Controls and Personal Protection (Continued)

#### US OSHA

Sodium Hydroxide  
CAS # 1310-73-2 2 mg/m3 TWA

#### ACGIH

Sodium Hydroxide  
CAS # 1310-73-2 2 mg/m3 Ceiling

#### DFG MAK

None established

#### Ireland

Sodium Hydroxide  
CAS # 1310-73-2 2 mg/m3 STEL

#### IOELVs

None established

#### NIOSH

Sodium Hydroxide  
CAS # 1310-73-2 10 mg/m3 IDLH

#### Japan

None established

#### 8.2 Exposure controls

##### Engineering Controls

No special engineering controls are required. Use with good general ventilation.

##### Eye Protection

Safety glasses or chemical goggles should be worn to prevent eye contact.  
Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.

##### Skin Protection

Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact.  
Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

##### Respiratory Protection

Under normal conditions, the use of this product should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.

### Section 9 Physical and Chemical Properties

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

<b>Physical State</b>	Liquid	<b>Specific Gravity (Water=1.0)</b>	1.05 @20°C
<b>Color</b>	Blue	<b>Solubility</b>	
<b>Transparency</b>	Clear	<b>Water</b>	Fully miscible
<b>Odor</b>	Odorless	<b>Organic</b>	Not determined
<b>pH</b>	13 @20°C	<b>Partition coefficient: n-octanol/water</b>	Not determined



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### Section 9 Physical and Chemical Properties (Continued)

<b>Freezing Point</b>	Similar to water, approximately 0 °C	<b>Auto-ignition Temp.</b>	Product is not selfigniting
<b>Boiling Point</b>	Similar to water, approximately 100 °C	<b>Decomposition Temperature</b>	Not determined
<b>Flash Point</b>	Not applicable	<b>Percent Volatiles</b>	Not applicable
<b>Evaporation Rate</b>	Not determined	<b>Vapor Pressure</b>	Similar to water, approximately 23 hPa
<b>Flammability (Solid, Gas)</b>	Not applicable	<b>Viscosity</b>	Not determined
<b>Flammability Limits</b>	Not applicable	<b>Explosive Properties</b>	Not applicable
<b>Vapor Density</b>	Not determined	<b>Oxidizing Properties</b>	Not applicable
<b>Odor Threshold</b>	Not applicable		
<b>9.2 Other Information</b>	No further relevant information available.		

### Section 10 Stability and Reactivity

<b>10.1 Reactivity</b>	No further relevant information available.
<b>10.2 Chemical Stability</b>	The product is stable in accordance with recommended storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	No further relevant information available.
<b>10.4 Conditions to Avoid</b>	To maintain product performance keep away from strong acids, strong bases, strong oxidizers. Avoid exposure to heat and direct sunlight.
<b>10.5 Incompatible materials</b>	No further relevant information available.
<b>10.6 Hazardous Decomposition Products</b>	No decomposition products posing significant hazards would be expected from this product (an aqueous solution).

### Section 11 Toxicological Information

<b>11.1 Information on toxicological effects</b>	
<b>Toxicity Data for Hazardous Ingredients</b>	
Sodium Hydroxide CAS # 1310-73-2	Dermal LD50 Rabbit 1350 mg/kg
Copper sulphate CAS # 7758-98-7	Oral LD50 Rat 300 mg/kg; Dermal LD50 Rabbit 1000 mg/kg
<b>Primary Routes of Exposure</b>	Eye contact, ingestion, inhalation, and skin contact.
<b>Skin Corrosion/Irritation</b>	Contact may cause severe skin burns.

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### Section 11 Toxicological Information (Continued)

<b>Serious eye damage/eye irritation</b>	Contact may cause serious eye damage.
<b>Respiratory/skin sensitization</b>	No data available.
<b>Carcinogenicity</b>	No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.
<b>Germ cell mutagenicity</b>	No data available.
<b>Reproductive Toxicity</b>	No data available.
<b>Specific target organ toxicity – single exposure</b>	No data available.
<b>Specific target organ toxicity – repeated exposure</b>	No data available.
<b>Aspiration hazard</b>	No data available.
<b>Other Information</b>	No further relevant information available.

### Section 12 Ecological Information

#### 12.1 Ecotoxicity

##### Fresh Water Species

Sodium Hydroxide  
CAS # 1310-73-2 96 h LC50 Oncorhynchus mykiss: 45.4 mg/L [static]

Copper sulphate  
CAS # 7758-98-7 96 h LC50 Oncorhynchus mykiss: 0.1 mg/L

##### Microtox

No information available.

##### Water Flea

Copper sulphate  
CAS # 7758-98-7 48 h EC50 Daphnia magna: 0.0058 - 0.0073 mg/L [Static]

##### Fresh Water Algae

No information available.

**12.2 Persistence and degradability** Not determined for the product.

**12.3 Bioaccumulation** Not determined for the product.

**12.4 Mobility in soil** Not determined for the product.

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## Section 12 Ecological Information (Continued)

### 12.5 Results of PBT and vPvB assessment

Not determined for the product. PBT: Not applicable, vPvB: Not applicable.

### 12.6 Other Adverse Effects

This product is classified as environmentally hazardous. Do not allow undiluted product to enter sewer/surface or ground water. Dispose of contents/container to in accordance with local/national regulations

## Section 13 Disposal Considerations

### 13.1 Waste treatment methods

#### Product Waste Disposal

Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information.

#### Package disposal

Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

### 13.2 Additional information

Suggested European waste catalogue 18 01 07 - chemicals other than those mentioned in 18 01 06. Dispose in accordance with national, state and local waste regulations.

## Section 14 Transport Information

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
<b>14.1 UN/ID Number</b>	1824	1824	1824	1824	PIN - 1824
<b>14.2 Shipping Name</b>	Sodium hydroxide solution				
<b>14.3 Hazard Class</b>	8 Corrosives	8 Corrosive substances	8 Corrosive material	8 Corrosive substances	8 Corrosives
<b>Subsidiary Risk</b>	None	None	None	None	None
<b>Classification Code</b>	Not applicable	Not applicable	Not applicable	C5	Not applicable
<b>14.4 Packing Group</b>	II	II	II	II	II
<b>Special Provisions</b>	A3	None	N34	None	None
<b>Additional information</b>					
<b>IATA ERG Code</b>	8L	Not applicable	Not applicable	Not applicable	Not applicable
<b>EmS</b>	Not applicable	F-A, S-B	Not applicable	Not applicable	Not applicable
<b>NAERG Code</b>	Not applicable	Not applicable	154	Not applicable	154
<b>14.5 Environmental Hazards</b>					

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## Section 14 Transport Information (Continued)

Shipping Information	IATA	IMDG	US DOT	European ADR	Canadian TDG
Marine Pollutant	Not applicable	No	Not applicable	Not applicable	Not applicable

### 14.6 Special Precautions for user

Warning: Corrosive substances.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## Section 15 Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### US Federal and State Regulations

<b>SARA 313</b>	No ingredients listed.
<b>CERCLA RG's, 40 CFR 302.4</b>	Sodium Hydroxide is listed. Copper sulphate is listed.
<b>California Proposition 65</b>	No ingredients listed.
<b>Massachusetts MSL</b>	Sodium Hydroxide is listed. Copper sulphate is listed.
<b>New Jersey Dept. of Health RTK List</b>	Sodium Hydroxide is listed. Copper sulphate is listed.
<b>Pennsylvania RTK</b>	Sodium Hydroxide is listed. Copper sulphate is listed.

#### EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

**Water Hazard Class (Germany) WGK 1**, low water endangering

**REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.**

No ingredients listed.

## Section 15 Regulatory Information (Continued)

### According to EC Directives (1999/45/EC and 67/548 EEC)

Irritant

Xi



#### Risk and Safety Phrases

R36/38 Irritating to eyes and skin.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S20 When using do not eat or drink.

S23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately.

#### Canada

This product is exempt from WHMIS label and SDS requirements.

**PIN**

1824

#### Ingredients on Ingredient Disclosure List

Sodium Hydroxide

Potassium Iodide

Copper sulphate

#### Ingredients with unknown toxicological properties

Product is exempt

#### 15.2 Chemical Safety Assessment A Chemical Safety Assessment has not been carried out.

*Some hazardous ingredients listed in Section 15 are below OSHAs and WHMIS' 1.0% w/w (0.1% for carcinogens) or EU's ingredient specific concentrations required for reporting in Section 3.*

## Section 16 Other Information

<b>Beckman Coulter Safety Rating</b>	<b>Flammability: 0</b> <b>Health: 3</b> <b>Reactivity with Water: 0</b> <b>Contact: 3</b>	<b>Code</b> 0=None 1=Slight 2=Caution 3=Severe
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#### Revision Changes

Fixed the page numbering.

#### Hazard Class, hazard statements and risk phrase description from section 3

C - Corrosive

N - Dangerous for the environment

Xn - Harmful

R 35 Causes severe burns.

R22 Harmful if swallowed.

R36/38 Irritating to eyes and skin.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## Section 16 Other Information (Continued)

Aquatic Acute 1 - Aquatic Hazard Acute, Category 1  
Acute Tox. Oral 4 - Acute Toxicity Oral, Category 4  
Eye Dam. 1 - Eye Damage Category 1  
Eye Irrit. 2 - Eye Irritation Category 2  
Aquatic Longterm 1 - Aquatic Hazard Long term, Category 1  
Skin Corr. 1A - Skin Corrosion Category 1A  
Skin Irrit. 2 - Skin Irritation Category 2  
H302 - Harmful if swallowed.  
H314 - Causes severe skin burns and eye damage.  
H315 - Causes skin irritation.  
H318 - Causes serious eye damage.  
H319 - Causes serious eye irritation.  
H400 - Very toxic to aquatic life.  
H410 - Very toxic to aquatic life with long lasting effects.

### Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists  
ADR - European Agreement Concerning The International Carriage Of Dangerous Goods By Road  
CERCLA - The Comprehensive Environmental Response, Compensation, and Liability Act  
CLP - Classification, Labeling and Packaging  
DFGMAK - Republic Germany's maximum exposure limit  
GHS - Globally Harmonized System  
HCS - Hazard Communication Standard  
IARC - International Agency for Research on Cancer  
IATA - International Air Transport Association  
ICAO - International Civil Aviation Organization  
IMDG - International Maritime Dangerous Goods  
IOELVs - European Unions' Indicative Occupational Exposure Limit Values  
NIOSH - National Institute for Occupational Safety and Health  
NTP - National Toxicology Program  
OSHA - Occupational Safety and Health Administration  
PBT - Persistent bioaccumulative and toxic substances  
SARA - Superfund Amendments and Reauthorization Act  
TDG - Canadian Transportation Of Dangerous Goods Regulations.  
UN GHS - United Nations Globally Harmonized System  
US DOT - United States Department of Transportation  
WHMIS - Workplace Hazardous Material Information System  
vPvB - Very persistent and very bioaccumulative substances  
LC50 - Lethal Concentration, 50%  
LD50 - Lethal Dose, 50%  
EC50 - Effective Concentration, 50%

For further information, please contact your local Beckman Coulter, Inc. representative.

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