



# MATERIAL SAFETY DATA SHEET

according to the Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 08/02/2012

Version 1.1

## SECTION 1. Identification

### Product identifier

Product number	109959
Product name	Sodium hydroxide solution for 1000 ml, c(NaOH) = 0.1 mol/l (0.1 N) Titrisol®

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

Identified uses	Reagent for analysis
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### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-751-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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## SECTION 2. Hazards identification

### GHS Classification

Skin corrosion, Category 1A, H314

Corrosive to Metals, Category 1, H290

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*

H314 Causes severe skin burns and eye damage.

H290 May be corrosive to metals.

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## *Precautionary Statements*

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

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

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

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

## **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Chemical nature

Aqueous solution

### **Hazardous ingredients**

*Chemical Name ( Concentration)*

CAS-No.

*sodium hydroxide ( >= 5 % - < 10 % )*

1310-73-2

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *Inhalation*

After inhalation: fresh air. Call in physician.

#### *Skin contact*

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

#### *Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

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

Irritation and corrosion, Cough, Shortness of breath, collapse, death

Risk of blindness!

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

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### Advice for firefighters

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Chemisorb® OH<sup>-</sup>, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No aluminum, tin, or zinc containers.

Tightly closed.

Storage temperature: no restrictions.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>sodium hydroxide 1310-73-2</i>			
ACGIH	Ceiling Limit Value:	2 mg/m <sup>3</sup>	
NIOSH/GUIDE	Ceiling Limit Value and Time Period (if specified):	2 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	2 mg/m <sup>3</sup>	
Z1A	Ceiling Limit Value:	2 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

#### Eye/face protection

Tightly fitting safety goggles

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended:

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

*Other protective equipment:*  
protective clothing

#### Respiratory protection

required when vapors/aerosols are generated.

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Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	odorless
Odor Threshold	not applicable
pH	ca. 13.8 at 68 °F ( 20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	1.09 g/cm <sup>3</sup> at 68 °F ( 20 °C)
Water solubility	at 68 °F ( 20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Corrosion	May be corrosive to metals.

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### SECTION 10. Stability and reactivity

#### Reactivity

See below

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapors with:

Metals, Light metals

Formed could be:

Hydrogen

Violent reactions possible with:

Nitriles, ammonium compounds, Cyanides, magnesium, organic nitro compounds, organic combustible substances, phenols, oxidizable substances, powdered alkaline earth metals, acids

#### Conditions to avoid

no information available

#### Incompatible materials

Aluminum, various plastics, brass, Metals, metal alloys, Zinc, Tin, Light metals, glass, quartzes/silicate ceramics, animal/vegetable tissues

#### Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### Information on toxicological effects

##### *Likely route of exposure*

Eye contact, Skin contact

##### *Target Organs*

Eyes

Skin

Respiratory system

##### *Acute oral toxicity*

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

##### *Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

##### *Skin irritation*

Necrosis

Mixture causes severe burns.

##### *Eye irritation*

Mixture causes serious eye damage. Necrosis Risk of blindness!

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### *Teratogenicity*

Did not show teratogenic effects in animal experiments. (anhydrous substance) (Lit.)

### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

Quantitative data on the toxicity of this product are not available.

Further toxicological data:

Systemic effects:

collapse, death

Further data:

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **Ecotoxicity**

No information available.

### **Persistence and degradability**

#### *Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

### **Bioaccumulative potential**

No information available.

### **Mobility in soil**

No information available.

### **Other adverse effects**

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## *Additional ecological information*

Biological effects:

Harmful effect due to pH shift. Death of fish possible. Does not cause biological oxygen deficit.  
Neutralization possible in waste water treatment plants.

Further information on ecology

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1824
Proper shipping name	SODIUM HYDROXIDE SOLUTION
Class	8
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1824
Proper shipping name	SODIUM HYDROXIDE SOLUTION
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)



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UN number	UN 1824
Proper shipping name	SODIUM HYDROXIDE SOLUTION
Class	8
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-B

## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Target organ effects  
Corrosive to skin  
Corrosive to eyes  
Corrosive by inhalation.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Acute Health Hazard  
Chronic Health Hazard

### US State Regulations

#### Massachusetts Right To Know

*Ingredients*  
sodium hydroxide

#### Pennsylvania Right To Know

*Ingredients*  
water  
sodium hydroxide

#### New Jersey Right To Know

*Ingredients*  
water  
sodium hydroxide

#### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

### Notification status

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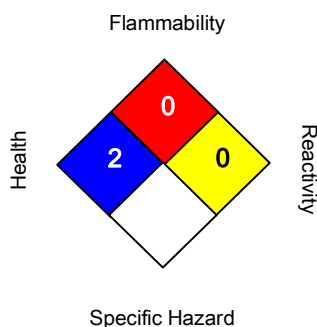
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TSCA: On TSCA Inventory

DSL: All components of this product are on the Canadian DSL list.

## SECTION 16. Other information

### National Fire Protection Association (U.S.A)



### Training advice

Provide adequate information, instruction and training for operators.

### Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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