Sodium Hydroxide, 12.5N (12.5M)

Safety Data Sheet

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Date of issue: 10/18/2013 Version: 1.0

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

1.1. Product identifier

Product form : Mixture

Product name : Sodium Hydroxide, 12.5N (12.5M)

Product code : LC24525

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 - 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

Skin Corr. 1B H314
Eye Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS05

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : P260 - Do not breathe mist, spray, vapours
P264 - Wash exposed skin thoroughly after handling
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: remove victim 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 to comply with local, state and federal regulations

2.3. Other hazards

Other hazards not contributing to the classification : None.

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	64.02	Not classified

Name	Product identifier	%	GHS-US classification
Sodium Hydroxide	(CAS No) 1310-73-2	35.98	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 : Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Immediately call a POISON CENTER or doctor/physician. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion : Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician. Rinse mouth.

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

Symptoms/injuries : Causes severe skin burns and eye damage.

Symptoms/injuries after inhalation : Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.

Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : Abdominal pain. Bleeding of the gastrointestinal tract. Burns to the gastric/intestinal mucosa. Nausea. Possible esophageal perforation.

Symptoms/injuries upon intravenous administration : Not available.

Chronic symptoms : Not available.

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 : Carbon dioxide. Dry powder. Water spray. Foam. Sand.

Unsuitable extinguishing media : Not available. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable.

Explosion hazard : Not available.

Reactivity : Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). Thermal decomposition generates : Corrosive vapours.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. In case of fire: stop leak if safe to do so. When cooling/extinguishing: no water in the substance. Avoid (reject) fire-fighting water to enter environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

Other information : Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate ignition sources. Ensure adequate ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

6.1.1. For non-emergency personnel

Protective equipment : Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.

Emergency procedures : Wash contaminated clothes. Evacuate unnecessary personnel. Keep containers closed.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

For containment : Take up liquid spill into inert absorbent material.

Methods for cleaning up : Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. 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

Additional hazards when processed : May be corrosive to metals.

Precautions for safe handling : Do not get in eyes, on skin, or on clothing. Remove contaminated clothing immediately. Use corrosionproof equipment. 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. Do not breathe mist, spray, vapours.

Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep container closed when not in use. Store in original container. Keep only in the original container in a cool, well ventilated place away from : incompatible materials.

Incompatible products : Strong acids. metals.

Incompatible materials : Sources of ignition. Direct sunlight.

Storage temperature : 5 - 30 °C

Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: (strong) acids. metals. metal powders.

Storage area : Keep locked up. Store in a well-ventilated place. Keep only in the original container.

Special rules on packaging : SPECIAL REQUIREMENTS: corrosion-proof.

Packaging materials : Do not store in corrodable metal.

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/m³)	2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	2 mg/m³

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.

Personal protective equipment : Gloves. Safety glasses. Protective clothing. Head/neck protection. Avoid all unnecessary exposure.

Hand protection : Wear chemically resistant protective gloves. Wear protective gloves.

Eye protection : Chemical goggles or face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Wear appropriate mask.

Thermal hazard protection : None necessary.

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

Appearance : Clear, colorless liquid.

Molecular mass : 40.01 g/mol

Colour : clear. colorless.

Odour : odorless.

Odour threshold	:	No data available
pH	:	≥ 14
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
Density	:	1.39 g/ml
Solubility	:	Soluble in water. Soluble in ethanol. Soluble in methanol.
Log Pow	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	18.19 cSt
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

Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen). Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not available.

10.4. Conditions to avoid

Incompatible materials. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

metals. Strong acids.

10.6. Hazardous decomposition products

Sodium oxide. fume. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Sodium Hydroxide, 12.5N (12.5M)	
LD50 dermal rabbit	3752 mg/kg

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)

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: ≥ 14

Serious eye damage/irritation : Causes serious eye damage.
pH: ≥ 14

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity	:	Not classified Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	:	Not classified
Specific target organ toxicity (repeated exposure)	:	Not classified Based on available data, the classification criteria are not met
Aspiration hazard	:	Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	:	Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes.
Symptoms/injuries after skin contact	:	Caustic burns/corrosion of the skin.
Symptoms/injuries after eye contact	:	Causes serious eye damage.
Symptoms/injuries after ingestion	:	Abdominal pain. Bleeding of the gastrointestinal tract. Burns to the gastric/intestinal mucosa. Nausea. Possible esophageal perforation.
Symptoms/injuries upon intravenous administration	:	Not available.
Chronic symptoms	:	Not available.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - water	:	Toxic to aquatic life.

Sodium Hydroxide, 12.5N (12.5M)	
LC50 fishes 1	126 mg/l
EC50 Daphnia 1	112 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)

12.2. Persistence and degradability

Sodium Hydroxide, 12.5N (12.5M)	
Persistence and degradability	Not established.

Sodium Hydroxide (1310-73-2)	
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

12.3. Bioaccumulative potential

Sodium Hydroxide, 12.5N (12.5M)	
Bioaccumulative potential	Not established.

Sodium Hydroxide (1310-73-2)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	:	May cause pH changes in aqueous ecological systems.
Other information	:	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

UN-No.(DOT) : 1824

DOT NA no. UN1824

14.2. UN proper shipping name

DOT Proper Shipping Name : Sodium hydroxide solution

Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive substances

Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 95 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: a = (d15 - d50) / 35*d50 Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

Marine pollutant : No

14.3. Additional information

Other information : No supplementary information available.

State during transport (ADR-RID) : as liquid.

Overland transport

No additional information available

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 52 - Stow ‘‘separated from’’ acids

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

SECTION 15: Regulatory information

15.1. US Federal regulations

Sodium Hydroxide, 12.5N (12.5M)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

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

15.2. International regulations

CANADA

Sodium Hydroxide, 12.5N (12.5M)	
WHMIS Classification	Class E - Corrosive Material

Sodium Hydroxide (1310-73-2)	
Listed on the Canadian DSL (Domestic Sustances List) inventory.	
WHMIS Classification	Class E - Corrosive Material

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 Hydroxide (1310-73-2)
Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Sodium Hydroxide (1310-73-2)

SECTION 16: Other information

Indication of changes : Revision - See : *.

Other information : None.

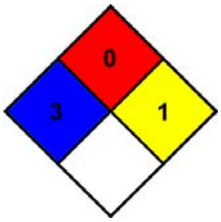
Full text of H-phrases: see section 16:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Aquatic Acute 3	Hazardous to the aquatic environment — AcuteHazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H402	Harmful to aquatic life

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability	: 0 Minimal Hazard
Physical	: 1 Slight Hazard
Personal Protection	: D

SDS US (GHS HazCom 2012)

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