

SECTION 1: Identification

1.1. Product identifier

Trade name	: SODIUM HYDROXIDE
Type of product	: Hygroscopic substance. Preventive measures apply to the substance in dry state only
EC-No.	: 215-185-5
EC Index-No.	: 011-002-00-6
CAS-No.	: 1310-73-2
UN-No. (ADR)	: 1823
Product code	: 119180xxx
Formula	: NaOH

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

Recommended uses and restrictions	: For laboratory use only
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1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Skin corrosion/irritation, Category 1	H314
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402
Full text of H statements	: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS05

Signal word (GHS-ZA)	: Danger
Hazard statements (GHS-ZA)	: H314 - Causes severe skin burns and eye damage. H402 - Harmful to aquatic life
Precautionary statements (GHS-ZA)	: P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P304+P340 - IF INHALED: Remove person to fresh air and keep 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. P321 - Specific treatment (see supplemental first aid instruction on this label). P363 - Wash contaminated clothing before reuse. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: Causes severe skin burns and eye damage, Harmful to aquatic life
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SODIUM HYDROXIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
sodium hydroxide (Main constituent)	(CAS-No.) 1310-73-2	≥ 98	Skin Corr. 1, H314 Aquatic Acute 3, H402

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wipe off dry product from skin. Remove clothing before washing. Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.html). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: WHEN PROCESSED: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of the upper respiratory tract. Possible laryngeal spasm/oedema. Risk of lung oedema.
Symptoms/effects after skin contact	: Blisters. Caustic burns/corrosion of the skin. Slow-healing wounds. Burns.
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Permanent eye damage. Serious damage to eyes.
Symptoms/effects after ingestion	: Dry/sore throat. Nausea. Abdominal pain. Blood in vomit. Difficulty in swallowing. Possible esophageal perforation. Burns to the gastric/intestinal mucosa. Bleeding of the gastrointestinal tract. Shock. Burns.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Dry skin. Skin rash/inflammation. Possible inflammation of the respiratory tract. Gastrointestinal complaints.
Potential adverse human health effects and symptoms	: Causes severe skin burns. Causes serious eye damage.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a fire hazard: see "Reactivity Hazard".
Explosion hazard	: INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

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According to SANS 10234:2008 and SANS 11014:2010

5.3. Advice for firefighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. When cooling/extinguishing: no water in the substance. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Warning! Product may cause floors to be slippery.
- 6.1.1. For non-emergency personnel**
- Protective equipment : Gloves. Face shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. Contact with moisture/water: compressed air/oxygen apparatus. Contact with moisture/water: gas-tight suit.
- Emergency procedures : Ventilate spillage area. Mark the danger area. Prevent dust cloud formation. Corrosion-proof appliances. Keep containers closed. Avoid ingress of water in the containers. Wash contaminated clothes. On contact with moisture/water: keep upwind. On contact with moisture/water: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.
- 6.1.2. For emergency responders**
- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Collect spillage.
- Methods for cleaning up : Mechanically recover the product. Collect the spill only if it is in a dry state. Wetted substance: cover with powdered limestone or dry sand, earth, vermiculite. Scoop solid spill into closing containers. Under controlled conditions: neutralize leftovers with dilute acid solution. Possible violent reaction if you neutralize. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Avoid raising dust. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid contact of substance with water. Keep container tightly closed. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Observe very strict hygiene - avoid contact. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
- Storage area : Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Unauthorized persons are not admitted. Store at ambient temperature. Keep only in the original container. Meet the legal requirements.
- Incompatible materials : May be corrosive to metals.
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids. metals. organic materials. water/moisture.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: stainless steel. nickel. polyethylene. paper. MATERIAL TO AVOID: lead. aluminium. copper. tin. zinc. bronze. textile.

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According to SANS 10234:2008 and SANS 11014:2010

Storage temperature : 20 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

SODIUM HYDROXIDE (1310-73-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Sodium hydroxide
OEL STEL (mg/m ³)	2 mg/m ³
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing : GIVE GOOD RESISTANCE: natural rubber. neoprene. nitrile rubber. GIVE LESS RESISTANCE: butyl rubber. polyethylene. PVA. GIVE POOR RESISTANCE: natural fibres

Hand protection : Protective gloves against chemicals (EN 374)

Eye protection : Face shield. In case of dust production: protective goggles

Skin and body protection : Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection : Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder. Little spheres. Lumps. Needles. Scales. Flakes.
Molecular mass	: 40 g/mol
Colour	: White.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 14 (5 %)
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 323 °C
Freezing point	: Not applicable
Boiling point	: 1388 °C (1013.25 hPa)
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.1 hPa (20 °C)
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 2.13 (20 °C)
Relative density of saturated gas/air mixture	: No data available
Density	: 2130 kg/m ³

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According to SANS 10234:2008 and SANS 11014:2010

Relative gas density	: No data available
Solubility	: Exothermically soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in glycerol. Water: 100 g/100ml (25 °C) Ethanol: soluble
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 0.53 mm ² /s (25 °C, 1 mol/l)
Viscosity, dynamic	: 0.997 mPa·s (25 °C, Test data, 0.5 mol/l)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

Minimum ignition energy	: Not applicable
Saturation concentration	: 671 g/m ³
VOC content	: Not applicable (inorganic)
Other properties	: Translucent. Hygroscopic. Basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

May be corrosive to metals. Absorbs the atmospheric CO₂. Violent to explosive reaction with (some) acids. Reacts violently with many compounds: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture): release of corrosive mist. Reacts exothermically on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

10.2. Chemical stability

Hygroscopic. Unstable on exposure to air.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Reacts on exposure to water (moisture) with (some) metals: release of highly flammable gases/vapours (hydrogen).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns. pH: 14 (5 %)
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 14 (5 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SODIUM HYDROXIDE (1310-73-2)

Viscosity, kinematic	0.53 mm ² /s (25 °C, 1 mol/l)
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Potential adverse human health effects and symptoms	: Causes severe skin burns. Causes serious eye damage.
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SODIUM HYDROXIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Harmful to aquatic life.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Harmful to crustacea. Harmful to fishes. Groundwater pollutant. pH shift.
Hazardous to the aquatic environment, short-term (acute)	: Harmful to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

SODIUM HYDROXIDE (1310-73-2)

LC50 fish 1	45.4 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Solution >=50%)
EC50 Daphnia 1	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Nominal concentration)

12.2. Persistence and degradability

SODIUM HYDROXIDE (1310-73-2)

Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

SODIUM HYDROXIDE (1310-73-2)

Bioaccumulative potential	Not bioaccumulative.
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12.4. Mobility in soil

SODIUM HYDROXIDE (1310-73-2)

Mobility in soil	No additional information available
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available




SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Should not be landfilled with household waste. Recycle/reuse. Dilute. Neutralize.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1823	1823	1823
14.2. Proper Shipping Name		
SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID	Sodium hydroxide, solid
14.3. Transport hazard class(es)		
8	8	8
		 Not applicable

SODIUM HYDROXIDE

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According to SANS 10234:2008 and SANS 11014:2010

SANS	IMDG	IATA
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN)	: Subject to the provisions
Limited quantities (SANS)	: 1 L
Limited quantities (SANS)	: 1 L
Packagings, large packagings and IBCs	: P001, IBC02
Packing instructions (SANS)	
Portable tank and bulk containers instructions (SANS)	: T7
Portable tank and bulk container special provisions (SANS)	: TP2

- IMDG

Transport regulations (IMDG)	: Subject to the provisions
Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B21, B4
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: White pellets, flakes, lumps or solid blocks, deliquescent. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.

- IATA

Transport regulations (IATA)	: Subject to the provisions
PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y844
PCA limited quantity max net quantity (IATA)	: 5kg
PCA packing instructions (IATA)	: 859
PCA max net quantity (IATA)	: 15kg
CAO packing instructions (IATA)	: 863
CAO max net quantity (IATA)	: 50kg
ERG code (IATA)	: 8L

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 national regulations specific for the product

Regulatory reference	: SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.
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SECTION 16: Other information

Issue date	: 07/02/2020
Revision date	: 07/02/2025

Full text of H-statements:

H314	Causes severe skin burns and eye damage.
H402	Harmful to aquatic life

SODIUM HYDROXIDE

Safety Data Sheet

According to SANS 10234:2008 and SANS 11014:2010

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.