



SAFETY DATA SHEET

99.0%

SODIUM HYDROXIDE

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name: Sodium Hydroxide
Product No.: SO
CAS-No.: 1310-73-2
EC No.: 215-185-5
REACH: 01-2119457892-27
Synonyms: Caustic Soda, Lye, Sodium Hydrate
Chemical Formula: NaOH

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified use: In the manufacture of sodium salts and detergents;
PH regulation, and organic synthesis;
As an additive in drilling mud;
For making soaps and detergents;
As drain cleaner;
For making artificial textile fibres;
In the manufacture of paper;
In de-greasing metals, oil refining and making dyes and bleaches;
In purifying bauxite ore from which aluminium metal is extracted;
In Bio Diesel Production;
Used for General Cleaning (include oven cleaner).

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Emergency overview:	May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system. Risk of serious damage to eyes.
Routes of exposure:	Inhalation. Skin contact. Eye contact.
Eyes:	Causes severe eye burns. Corrosive to the eyes and may cause severe damage including blindness.
Skin:	Contact causes severe skin irritation and possible burns.
Inhalation:	Can cause severe respiratory irritation. Inhalation of mists or vapours may produce upper airway edema, wheezing, pulmonary edema, pneumonitis and respiratory failure.
Ingestion:	Ingestion may produce burns to the lips, oral cavity, upper airway, oesophagus and possibly the digestive tract. Ingestion of this product may cause nausea, vomiting and diarrhea.
Target organs:	Eyes. Respiratory system. Skin.
Chronic effects:	Prolonged skin contact may defat the skin and produce dermatitis.

Classification(EC 1272/2008)

Physical and Chemical: Met. Corr. 1 - H290

Hazards

Human health: Skin Corr. 1A - H314; Eye Dam. 1 - H318

Environment: Not classified.

Classification (67/548/EEC) C;R35.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Human health: Corrosive. Prolonged contact causes serious eye and tissue damage.

Environment: The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effect in the aquatic environment.

Physical and Chemical Hazards: Resultant solutions are alkaline (basic) and corrosive to some metals.

2.2. LABEL ELEMENTS



Corrosive



RISK PHRASES

R35	Causes severe burns
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness

SAFETY PHRASES

S1/2	Keep locked and out of the reach of children
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S29/56	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
S37	Wear suitable gloves
S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S46	If swallowed, seek medical advice immediately and show this container or label
S51	Use only in well-ventilated areas
S61	Avoid release to the environment

HAZARD PHRASES

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation

PROTECTION PHRASES

P280	Wear protective gloves/protective clothing/eye protection/face protection
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P305+351+338	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
P320 Specific treatment is urgent (see medical advice on this label)
P501 Dispose of contents/container in accordance with national regulations

SUPPLEMENTARY PRECAUTIONARY STATEMENTS

- P234 Keep only in original container
P261 Avoid breathing dust
P264 Wash contaminated skin thoroughly after handling
P363 Wash contaminated clothing before reuse
P405 Store locked up

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

HD Chemicals Caustic Soda does not contain any PBT or vPvB substances.

67/548/EEC/1999/45/EC

Composition information – main constituents

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Sodium Hydroxide	NaOH	01-2119457892-27	99.0%	215-185-5	1310-73-2	C; R35, N; R52/53, R66, R67

EC 1272/2008

Composition information – main constituents

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Sodium Hydroxide	NaOH	01-2119457892-27	99.0%	215-185-5	1310-73-2	H290, H314, H315, H319



SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

General information: Immediately remove affected person from source of exposure. Provide first aid, rest, warmth and fresh air. Keep victim warm. In case of shortness of breath, give oxygen. Immediate medical attention is required. First aiders should avoid direct contact with this product and should wear protective gloves, goggles and clothing. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Inhalation: Keep the affected person warm and at rest. Get prompt medical attention. Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Get medical attention immediately! Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.

Skin contact: Remove contaminated clothing. Wash the skin immediately with soap and water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Get medical attention promptly if symptoms occur after washing.

Eye contact: Promptly rinse eyes with plenty of clean water while lifting the eyelids. Continue to rinse for at least 15 minutes. Continue until the eyes are free of all traces of contamination. Get immediate medical attention.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

- Inhalation:** Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.
- Ingestion:** May cause chemical burns in mouth and throat.
- Skin contact:** Burning pain and severe corrosive skin damage.
- Eye contact:** Corneal damage.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!
When contacting a physician, take this SDS with you.



SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

No unusual fire or explosion hazards noted.

The product is non-combustible. If heated, corrosive vapours may be formed.

5.3. ADVICE FOR FIRE-FIGHTERS

Wear self-contained breathing apparatus and full protective clothing. Keep all unnecessary people away. Fire water run-off must not be allowed to contaminate ground or enter drains, sewers or water courses. Provide bounding against fire water run-off. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear protective clothing (see Section 8). Keep unnecessary people at a safe distance. Ventilate closed spaces before entering. Local authorities should be advised if significant spillages cannot be contained.

6.2. ENVIRONMENTAL PRECAUTIONS

Do not allow ANY environmental contamination. Cover all drains and sewers. Avoid spreading spilled material.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

DO NOT TOUCH SPILLED MATERIAL! Remove by vacuuming. Alternatively shovel or sweep up. Avoid dust formation. Place into a clearly labelled container for recovery or disposal (see section 13). Rinse site with copious amounts of water, which should not be allowed into drains, sewers or watercourses.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Prevent spilling, skin and eye contact. Use only with adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust. Handle and open container with care. Avoid

breathing dusts from this material. Wash hands after handling and before eating. Considerable heat is generated when water or acid is added, therefore when making solutions always add the caustic to the water or acid with constant stirring.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in tightly closed original container in a dry, cool and well-ventilated place. Stored containers should be routinely inspected for damage and/or leakage. Keep this material away from food, drink and animal feed. Keep out of the reach of children.

7.3. SPECIFIC END USE(S)

For industrial use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

ACGIH - Threshold Limits Values - Ceilings (TLV-C)

SODIUM HYDROXIDE	1310-73-2	2 Mg/m ³ Ceiling
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ACGIH - Threshold Limits Values - TLV Basis - Critical Effects

SODIUM HYDROXIDE	1310-73-2	irritation
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OSHA - Final PELs - Time Weighted Averages (TWAs)

SODIUM HYDROXIDE	1310-73-2	2 Mg/m ³ TWA
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Engineering controls: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapours.

Protective equipment:



Wear suitable protective gloves conforming to EN 374 and suitable eye protection.

Process conditions: Provide eyewash, quick drench.

Respiratory equipment:	If ventilation is insufficient suitable respiratory protection must be provided. Seek advice and recommendations of the manufacturer or supplier of equipment.
Hand protection:	Use of protective coveralls and long sleeves is recommended- suitable protective gloves conforming to EN 374. After using gloves the hands should be washed and thoroughly dried and a suitable moisturiser applied. Use of impervious boots is recommended. Use of an impervious apron is recommended. Recommended gloves include rubber, neoprene, nitrile or viton.
Eye/Face protection:	Wear chemical goggles - tightly fitting safety goggles conforming to EN 166. Face-shield. Eye wash fountain and emergency showers are recommended.
Other Protection:	Wear appropriate clothing to prevent reasonably probable skin contact.
Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pellets/Solid
Colour:	White
Odour:	Odourless
Solubility:	Soluble in water
Initial boiling point and boiling range (°C):	1388 °C at 760 mmHg
Melting point (°C):	323
Relative density:	2.13 @ 20°C
Vapour pressure:	1 Pa @ 513°C, 0 HPa @ 20 °C
pH-Value, Diluted Solution:	12, conc: 0.05% (solution); 13, conc: 1% (solution); 14, conc: 5% (solution)
Flash point (°C):	Not applicable.
Partition Coefficient (N-Octanol/Water):	Not relevant
Molecular weight:	40.01 g/mol
Molecular formula:	NaOH



SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

The solution is strongly alkaline and reacts with strong acids with heat generation.

10.2. CHEMICAL STABILITY

Stable under normal conditions of storage and use.

Avoid unintended contact with strong acids. May react violently with oxidising substances.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Not determined.

10.4. CONDITIONS TO AVOID

Water, moisture, acids and heating.

10.5. INCOMPATIBLE MATERIALS

Materials To Avoid: Acids Oxidising agents. Alkali sensitive metals or alloys including aluminium, brass, bronze, copper, lead, tin, and zinc. Halogenated compounds.

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

No hazardous decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Acute effects: Causes severe burns

Acute Toxicity (Oral LD50); 1350 mg/kg Rabbit

Chronic effects: Prolonged or repeated exposure may cause lung injury. Prolonged skin contact may defeat the skin and produce dermatitis.

General information: Corrosive to all living tissue. Danger of very serious irreversible effects if swallowed - for symptoms see section 4.

Inhalation: Dust may irritate respiratory system or lungs.



Ingestion:	May cause severe internal injury.
Skin contact:	Brief contact may cause severe irritation. Prolonged contact may cause severe burns.
Eye contact:	Risk of serious damage to eyes.
Target Organs:	Skin Respiratory system, lungs.

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Because of the high pH of this product, it would be expected to produce significant eco toxicity upon exposure to aquatic organisms and aquatic systems.

12.1. TOXICITY

Do not allow to enter drains, sewers or watercourses.

Acute Fish Toxicity: Harmful to aquatic life. Discharge of large quantities may kill fish and other aquatic life due to excessive changes in pH.

12.2. PERSISTENCE AND DEGRADABILITY

The product solely consists of inorganic compounds which are not biodegradable.

12.3. BIO ACCUMULATIVE POTENTIAL

The product does not contain any substances expected to be bio accumulating.

12.4. MOBILITY

Hygroscopic and very soluble. The product is water soluble and may spread in water systems

12.5. RESULTS OF PBT AND vPvB ASSESSMENT

This product does not contain any PBT or vPvB substances.

12.6. OTHER ADVERSE EFFECTS

High concentrations may affect water treatment processes.

SECTION 13: DISPOSAL CONSIDERATIONS

General information: Empty unlaundered containers must be treated in the same manner as when full; labels should not be removed.

Waste treatment methods: Product is classified as hazardous waste. Disposal of waste material and empty containers must be by means of a licensed waste contractor.

SECTION 14: TRANSPORT INFORMATION

UN number

UN No. (ADR/RID/ADN)	1823
UN No. (IMDG)	1823
UN No. (ICAO)	1823

UN proper shipping name

Proper Shipping Name	SODIUM HYDROXIDE, SOLID
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Transport hazard class(es)

ADR/RID/ADN Class	8
ADR/RID/ADN Class	Class 8: Corrosive substances.
ADR Label No.	8
IMDG Class	8
ICAO Class/Division	8
Transport Labels	



Packing group

ADR/RID/ADN Packing group	II
IMDG Packing group	II
ICAO Packing group	II

Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



No.

Special precautions for user

EMS	F-A, S-B
Emergency Action Code	2W
Hazard No. (ADR)	80
Tunnel Restriction Code	(E)

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

ENVIRONMENTAL HAZARDS

Environmentally Hazardous Substance/Marine Pollutant

SECTION 15: REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Statutory Instruments

Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 SI No 716. (CHIP4).

Control of Substances Hazardous to Health Regulations (as amended). (COSHH)

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2007. (CDG 2009)

Approved Code Of Practice

The Control of Substances Hazardous to Health Regulations 2002 (as amended). Approved code of practice and guidance.

Fifth Edition 2005. HSE Books, or download at: <http://www.hse.gov.uk/pubns/priced/l5.pdf>

Approved Classification and Labelling guide (Sixth edition). Chemicals (Hazard Information and Packaging for Supply)

Regulations 2009 (CHIP 4). HSE Books, or download at: <http://www.hse.gov.uk/pubns/books/l131.htm>

Guidance Notes

CHIP for everyone HSG(108).

Workplace Exposure Limits EH40.

EU Legislation

ADR (L'Accordeuropéen relative au transport international des marchandises danger uses par route.)

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),



establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation(EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC,93/105/EC and 2000/21/EC, including amendments.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 16/01/2020

Revision: 02

Safety Data Sheet Status Approved.

Date printed 16/01/2020

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.