

1 Identification

· **Product identifier**

· **Trade name:** **Anhydrous Sodium Hydroxide**

· **CAS Number:**

1310-73-2

· **EC number:**

215-185-5

· **Index number:**

011-002-00-6

· **Relevant identified uses of the substance or mixture and uses advised against**

Production of solid soda hydroxides including the production of aqueous sodium hydroxide solution

Industrial and professional use of sodium hydroxide.

In the pulp and paper industry, production of pesticides, organic pigments, epoxy resins, textile industry, rubber industry, food industry, metal industry, aluminum industry. As a reactant for the Herstelling of Chemkalien, or to neutralize (steel industry, electroplating industry, (waste water), rubber industry, cleaning and water treatment (food industry) or extraction (aluminum industry)

Consumers: Use of sodium hydroxide:

· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

· **Process category**

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

· **Environmental release category** No relevant release

· **Application of the substance / the mixture**

Chemicals for synthesis

Chemical production

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Jubail Chemical Industries Company (Jana)

PO Box 11919 Jubail Industrial City, 31961

Saudi Arabia

tel. +966 133478888 ext. 555 fax +966 133476705

· **Information department:** safety: e-mail: safety@nama.com.sa

· **Emergency telephone number:**

Tox Info Suisse

Freiestrasse 16 CH- Zurich

Emergency phone number (from outside Switzerland): 0041 44 251 51 51 (24h)

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS05 Corrosion

Met. Corr.1 H290 May be corrosive to metals.

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

(Contd. on page 2)

USA

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 1)

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

**Corrosive**

Causes severe burns.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

sodium hydroxide

- **Hazard statements**

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

- **Precautionary statements**

P260 *Do not breathe dusts or mists.*P303+P361+P353 *IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*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/doctor.*P405 *Store locked up.*P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 4

Fire = 0

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

1310-73-2 sodium hydroxide

- **Identification number(s)**

· **EC number:** 215-185-5· **Index number:** 011-002-00-6

USA

(Contd. on page 3)

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 2)

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Call a doctor immediately.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
Use fire fighting measures that suit the environment.
Not-combustible. Ambient fire may liberate hazardous vapours.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Unsuitable material for receptacle: aluminium.
Dry. At. ° 5 C to + 30 °C
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**
Keep contents moist.
Store in dry conditions.
Keep receptacle tightly sealed.

(Contd. on page 4)

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 3)

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

1310-73-2 sodium hydroxide

PEL Long-term value: 2 mg/m³

REL Ceiling limit value: 2 mg/m³

TLV Ceiling limit value: 2 mg/m³

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

For durable compliance with Occupational Exposure Limits (OEL, MAK) no special measures are required. Exposure measurements in the workplace are generally recommended.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:** Use suitable respiratory protective device only when aerosol or mist is formed.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

Chloroprene rubber, CR

Recommended thickness of the material: ≥ 0.5 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 4)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Solid
Color:	White
Odor:	Odorless

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range:	319 °C (606 °F)
Boiling point/Boiling range:	1390 °C (2534 °F) (DIN 51751)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Product is not flammable.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 800 °C (1472 °F):** 3.5 hPa (3 mm Hg)

· **Density at 20 °C (68 °F):** 2.13 g/cm³ (17.775 lbs/gal)

· **Solubility in / Miscibility with**

Water at 20 °C (68 °F): 420 g/l

· **Viscosity:**

Dynamic:	Not applicable.
Kinematic:	Not applicable.
Organic solvents:	0.0 %

Solids content: 100.0 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity**

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:**

Metals, light metals: Hydrogen could be formed. (risk of explosion !)

Acids, nitriles, alkaline earth metals in powder form, ammonium compounds cyanides, magnesium, organic nitro compounds, organic combustible substances, phenol and oxidizable substances.

· **Hazardous decomposition products:** No dangerous decomposition products known.

· **Additional information:** hygroscopic

USA

(Contd. on page 6)

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 5)

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

1310-73-2 sodium hydroxide

Oral	LD50	2000 mg/kg (rat)
------	------	------------------

- **Primary irritant effect:**

- **on the skin:** Strong caustic effect on skin and mucous membranes.

- **on the eye:** Causes severe eye damage.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

1310-73-2 sodium hydroxide

EC50 (24h)	76 mg/l (daphnia magna)
LC50 (48h)	99 mg/l (Lepomis macrochirus)
	45.4 mg/l (Oncorhynchus mykiss)

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

USA

(Contd. on page 7)



Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 6)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Hand over to hazardous waste disposers.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· UN-Number	
· DOT, ADR, IMDG, IATA	UN1823
· UN proper shipping name	
· DOT	Sodium hydroxide, solid
· ADR	1823 Sodium hydroxide, solid
· IMDG, IATA	SODIUM HYDROXIDE, SOLID
· Transport hazard class(es)	
· DOT	
	
· Class	8 Corrosive substances
· Label	8
· ADR, IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Remarks:	Lösungen: 8,42b, KZ 80, UN 1824, Gz 8

(Contd. on page 8)

USA

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 7)

- | | |
|-----------------------------------|---|
| · IMDG | |
| · Limited quantities (LQ) | 1 kg |
| · Excepted quantities (EQ) | Code: E2
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 500 g |
| · UN "Model Regulation": | UN1823, Sodium hydroxide, solid, 8, II |

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labeling:**

sodium hydroxide

· **Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

(Contd. on page 9)

Trade name: Anhydrous Sodium Hydroxide

(Contd. of page 8)

· **Precautionary statements**

- P260 Do not breathe dusts or mists.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 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/doctor.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** product safety departement

- **Date of preparation / last revision** 02/26/2015 / 10

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Met. Corr.1: Corrosive to metals, Hazard Category 1

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

- *** Data compared to the previous version altered.**