

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

· 1.1 Product identifier

· Trade name: **Sodium Hydroxide anhydrous**

· CAS Number:

1310-73-2

· EC number:

215-185-5

· Index number:

011-002-00-6

· Registration number 01-2119457892-27-0055

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

Production of solid sodium hydroxide including the production of aqueous sodium hydroxide solution.

Industrial and professional use of sodium hydroxide:

In the pulp and paper industry, production of crop protection, organic pigments, epoxy resins, textile industry, rubber industry, food industry, metal industry, aluminum industry. As a reactant for the manufacturing of chemicals or for neutralization (steel industry, electroplating industry, (waste water), rubber industry, cleaning and water treatment (food industry) or extraction (aluminum industry)

Consumers: Use of sodium hydroxide:

Neutralisation, cleaning products, cosmetics, personal care products, batteries.

· Title of the Application for the following the sector of use, Product category, Process category, Environmental release category

ES1 Manufacturing of solid NaOH including manufacturing of liquid NaOH.

· 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)

· Product category -

· 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

· Article category -

· Application of the substance / the mixture

Chemicals for synthesis

Chemical production

· 1.3 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

· Further information obtainable from: safety: e-mail: safety@nama.com.sa

· 1.4 Emergency telephone number:

Tox Info Suisse

Freiestrasse 16 CH-8032 Zurich

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

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SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



corrosion

Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.

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



C; Corrosive

R35: Causes severe burns.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labelling:**
sodium hydroxide
- **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): 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.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**
1310-73-2 sodium hydroxide
- **Identification number(s)**
- **EC number:** 215-185-5
- **Index number:** 011-002-00-6

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SECTION 4: First aid measures

- **4.1 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 plenty of water and provide fresh air. Call for a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Use fire extinguishing methods suitable to surrounding conditions.
Not-combustible. Ambient fire may liberate hazardous vapours
For surrounding fire, formation of dangerous fumes is possible.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Wear protective equipment. Keep unprotected persons away.
Avoid contact with substance.
In an enclosed rooms care for fresh air.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Thorough dedusting.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Unsuitable material for receptacle: aluminium.
- **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.

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- Keep container tightly sealed.
- **Maximum storage temperature:** + 30 °C.
- **Minimum storage temperature:** + 5 °C.
- **Storage class:** 8 B (TRGS 510) Non flammable, corrosive substances.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

· 8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

1310-73-2 sodium hydroxide

MAK (Germany)	vgl.Abschn.IIb
MAK (EU)	Long-term value: 200 mg/m ³ , 300 ppm
MAK (Switzerland)	Short-term value: 2 e mg/m ³ Long-term value: 2 e mg/m ³ SSc;

- **DNELs**

1310-73-2 sodium hydroxide

Inhalative	Langzeit-Long term	1 mg/m ³ (Workers)
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- **Additional information:** The lists valid during the making were used as basis.

· 8.2 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.

- **Respiratory protection:** 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: $\geq 0,5$ 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.

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· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Solid
· Colour:	White
· Odour:	Odourless

· **pH-value:** Not applicable.

· **Change in condition**

· Melting point/Melting range:	319 °C
· Boiling point/Boiling range:	1390 °C (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.

· **Vapour pressure at 800 °C:** 3,5 hPa

· **Density at 20 °C:** 2,13 g/cm³

· **Solubility in / Miscibility with water at 20 °C:** 420 g/l

· **Viscosity:**

· Dynamic:	Not applicable.
· Kinematic:	Not applicable.

· **Solvent content:**

· Organic solvents:	0,0 %
· VOC (EC)	0,00 %

· **Solids content:** 100,0 %

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

SECTION 10: Stability and reactivity

· **10.1 Reactivity**

· **10.2 Chemical stability**

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

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

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

· **10.5 Incompatible materials:**

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

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

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

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· **Additional information:** hygroscopic

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

1310-73-2 sodium hydroxide

Oral	LD50	2000 mg/kg (rat)
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· **Primary irritant effect:**

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

· **on the eye:** Causes serious eye damage.

· **Sensitisation:** No sensitising 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.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

1310-73-2 sodium hydroxide

EC50 (24h)	76 mg/l (daphnia magna)
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LC50 (48h)	99 mg/l (Lepomis macrochirus)
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	45,4 mg/l (Oncorhynchus mykiss)
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· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Hand over to hazardous waste disposers.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue**

06 02 04*	sodium and potassium hydroxide
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Trade name: Sodium Hydroxide anhydrous

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1823
· 14.2 UN proper shipping name · ADR · IMDG, IATA	1823 SODIUM HYDROXIDE, SOLID SODIUM HYDROXIDE, SOLID
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA	 · Class 8 Corrosive substances. · Label 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Corrosive substances. 80 F-A,S-B Alkalis
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Excepted quantities (EQ): · Limited quantities (LQ) · Excepted quantities (EQ)	E2 1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Transport category · Tunnel restriction code · Remarks:	2 E Lösungen: 8,42b, KZ 80, UN 1824, Gz 8
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1 kg 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

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SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS05

- Signal word *Danger*
- Hazard-determining components of labelling:
sodium hydroxide
- Hazard statements
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): 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.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.

SECTION 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 MSDS: product safety department
- 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
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
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.

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Trade name: Sodium Hydroxide anhydrous

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Annex: Exposure scenario 1

- **Short title of the exposure scenario**
ES1 Manufacturing of solid NaOH including manufacturing liquid NaOH
- **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)
- **Product category -**
- **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
- **Article category -**
- **Environmental release category** No relevant release
- **Description of the activities / processes covered in the Exposure Scenario**
See full text of the descriptors in section 1.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Worker**
Permanent use with exposure up to 8 hrs every work day of the week.
Can be 12 hours/day.
- **Environment** The undiluted product must not enter the sewage system or the aquatic environment.
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity** Nessun dato disponibile tons per day
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
Observe first aid measures (for treatment of exposure due to accidents).
Avoid contact with eyes.
Avoid contact with the skin.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
Deploy only trained chemical workers.
Read first aid measures for treatment prior to contact with the product.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
Do not inhale dust / smoke / mist.
Avoid contact with the skin.
Avoid contact with the eyes.
Tightly sealed goggles
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

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*degradation**Protective work clothing**Change contaminated clothing immediately.**Alkaline resistant protective clothing**Immediately remove all soiled and contaminated clothing.**Wash hands before breaks and at the end of work.*

- **Measures for consumer protection**

*Ensure adequate labelling.**Keep locked up and out of the reach of children.*

- **Environmental protection measures**

- **Water**

Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

- **Disposal measures**

*Disposal must be made according to official regulations.**Ensure that waste is collected and contained.*

- **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **Waste type**

*Aqueous solution**Partially emptied and uncleaned packaging*

- **Exposure estimation**

- **Worker (inhalation)** *The highest inhalative exposure to be expected is 0,269 ppm.*

- **Consumer** *Not relevant for this Exposure Scenario.*

- **Guidance for downstream users** *No further relevant information available.*

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Annex: Exposure scenario 2

- **Short title of the exposure scenario** Industrial and professional use of NaOH
- **Sector of Use**
SU1-24 Production of other chemicals , both organics (30 %) and inorganics (13%). Pulp and paper industry (12 %), aluminium and metal industry (7%), food industry (3%), water treatment (3%) and textile (3%) . Remainder is used in the production of soaps, mineral oils . bleach, phosphates, cellulose, rubber and others.
- **Product category**
 - PC14 Metal surface treatment products, including galvanic and electroplating products
 - PC15 Non-metal-surface treatment products
 - PC19 Intermediate
 - PC20 Products such as ph-regulators, flocculants, precipitants, neutralisation agents
 - PC21 Laboratory chemicals
 - PC35 Washing and cleaning products (including solvent based products)
 - PC36 Water softeners
 - PC37 Water treatment chemicals
 - PC2 Adsorbents
- **Process category**
 - PROC3 Use in closed batch process (synthesis or formulation)
 - PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
 - PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
 - 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)
 - PROC10 Roller application or brushing
 - PROC11 Non industrial spraying
 - PROC13 Treatment of articles by dipping and pouring
 - PROC15 Use as laboratory reagent
 - PROC2 Use in closed, continuous process with occasional controlled exposure
 - PROC1 Use in closed process, no likelihood of exposure
- **Environmental release category**
 - ERC1 Manufacture of substances
 - ERC2 Formulation of preparations
 - ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
 - ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
 - ERC6b Industrial use of reactive processing aids
 - ERC7 Industrial use of substances in closed systems
 - ERC8a Wide dispersive indoor use of processing aids in open systems
 - ERC8b Wide dispersive indoor use of reactive substances in open systems
 - ERC8d Wide dispersive outdoor use of processing aids in open systems
 - ERC9a Wide dispersive indoor use of substances in closed systems
- **Description of the activities / processes covered in the Exposure Scenario**
See full text of the descriptors in section 1.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Worker** 4 hrs (half working shift).
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.

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- **Other operational conditions**
- **Other operational conditions affecting environmental exposure**
Observe section 6 of the Safety Data Sheet (Accidental release measures).
- **Other operational conditions affecting worker exposure**
Do not breathe gas/fume/vapour/aerosol.
Avoid contact with eyes.
Avoid contact with the skin.
Indoor application.
Outdoor application.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
Do not inhale dust / smoke / mist.
Avoid contact with the skin.
Avoid contact with the eyes.
Tightly sealed goggles
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
Wash hands before breaks and at the end of work.
Alkaline resistant protective clothing
Immediately remove all soiled and contaminated clothing.
- **Measures for consumer protection**
Ensure adequate labelling.
Keep locked up and out of the reach of children.
- **Environmental protection measures**
- **Water**
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.
- **Disposal measures**
Ensure that all wastewater is collected and treated in a wastewater treatment plant.
Disposal must be made according to official regulations.
Ensure that waste is collected and contained.
- **Disposal procedures**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type**
Aqueous solution
Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Worker (dermal)** The highest dermal exposure to be expected is 84 mg/d. when handling < 2 % NaOH.
- **Worker (inhalation)**
The highest inhalative exposure to be expected is < 1 ppm.
Values for risk characterisation:
Pulp and paper industry: 0.08 mg/m³
De-inking waste paper: 1.20 mg/m³
Aluminium: 0.14 mg/m³, Short-term value: 1.1 mg/m³
Textile: 3.4 mg/m³
Chemical industry: 0.08 mg/m³
- **Environment** Purification plant: No exposure
- **Consumer** Not relevant for this Exposure Scenario.

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Trade name: Sodium Hydroxide anhydrous

· **Guidance for downstream users** No further relevant information available.

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Annex: Exposure scenario 3

- **Short title of the exposure scenario** Consumer use NaOH
- **Sector of Use** SU21 Consumer uses: Private households / general public / consumers
- **Product category**
 - PC39 Cosmetics, personal care products
 - PC3 Air care products PC28
 - Perfumes, fragrances PC31
 - Polishes and wax blends
 - PC20 Products such as ph-regulators, flocculants, precipitants, neutralisation agents
 - PC35 Washing and cleaning products (including solvent based products)
- **Environmental release category** No relevant release
- **Description of the activities / processes covered in the Exposure Scenario**
See full text of the descriptors in section 1.
- **Conditions of use**
- **Duration and frequency**
Less than 1 hr.
Short-term.
- **Physical parameters**
The data on the physical - chemical properties in the Exposure Scenario is based on the properties of the preparation.
- **Physical state** Solid
- **Concentration of the substance in the mixture** Raw material.
- **Used amount per time or activity**
According to directions for use.
Smaller than 100 g per application.
- **Other operational conditions**
- **Other operational conditions affecting environmental exposure** No special measures required.
- **Other operational conditions affecting worker exposure**
Avoid contact with eyes.
Avoid contact with the skin.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
Do not inhale dust / smoke / mist.
Avoid contact with the skin.
Avoid contact with the eyes.
Tightly sealed goggles
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
Wash hands before breaks and at the end of work.
Alkaline resistant protective clothing
Immediately remove all soiled and contaminated clothing.
- **Measures for consumer protection**
Ensure adequate labelling.
Keep locked up and out of the reach of children.
- **Environmental protection measures**
- **Water**
Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.

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Trade name: Sodium Hydroxide anhydrous

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· **Disposal measures**

Disposal must be made according to official regulations.

Ensure that waste is collected and contained.

· **Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Waste type** Partially emptied and uncleaned packaging

· **Exposure estimation**

· **Consumer**

Not relevant for this Exposure Scenario.

The highest inhalative exposure to be expected for consumers is 0,3 - 1,6 ppm

or mg/kg/bw/day

The highest dermal exposure to be expected for consumers is pas relevante mg / kg / day.

The highest oral exposure to be expected for consumers is pas relevante mg / kg / day.

· **Guidance for downstream users** No further relevant information available.

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