



SAFETY DATA SHEET

Sodium Hydroxide Anhydrous

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

1.1. Product identifier

Product name	Sodium Hydroxide Anhydrous _(USA)
REACH registration number	01-2119457892-27-0055
CAS number	1980-14-5
EU index number	011-005-00-9
EC number	215-185-5

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

Identified uses	<p>Production of solid sodium hydroxide including the production of aqueous sodium hydroxide solution.</p> <p>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)</p> <p>Consumers: Use of sodium hydroxide: Neutralisation, cleaning products, cosmetics, personal care products, batteries.</p>
Sector of Use	Refer to Annexes (after Section 16)
Process category	Refer to Annexes (after Section 16)
Application of the substance / the mixture	Chemicals for synthesis Chemical production,

1.3. Details of the supplier of the safety data sheet

Manufacturer	PETRO CASPIAN SEPEHR Site 3 - Petrochemical Special Economic Zone - Mahshahr Harbor - Iran Tel & Fax : +98 61 5211710 - 13 info@petrocaspiansepehr.com
--------------	--

1.4. Emergency telephone number

Emergency telephone	Emergency CONTACT (24-Hour-Number):PCS +98 61 5211710 - 13
---------------------	--

Sodium Hydroxide Anhydrous

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Met. Corr. 1 - H290
Health hazards	Skin Corr. 1A - H314
Environmental hazards	Not Classified

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

EC number 215-185-5

Hazard pictograms



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.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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 national regulations.

NFPA Ratings (scale 0 - 4)



HMIS-Ratings (scale 0 - 4)



2.3. Other hazards

Results of PBT and vPvB assessment: Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	Sodium Hydroxide Anhydrous
REACH registration number	01-2119457892-27-0055
EU index number	011-002-00-6

Sodium Hydroxide Anhydrous

CAS number 1310-73-2

EC number 215-185-5

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Promptly remove any clothing that becomes wet or contaminated.
Inhalation	IF INHALED: Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately.
Ingestion	IF SWALLOWED: Remove person to fresh air and keep comfortable for breathing. Give plenty of water to drink. Get medical attention immediately.
Skin contact	IF ON SKIN: Wash promptly with soap and water if skin becomes contaminated.
Eye contact	IF IN EYES: Get medical attention immediately. Remove any contact lenses and open eyelids wide apart. Rinse cautiously with water for several minutes.

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

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

Notes for the doctor No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding fire. The product is not combustible but in a fire may release oxygen, which can increase the burning rate of flammable materials. In case of fire and/or explosion do not breathe fumes.

5.2. Special hazards arising from the substance or mixture

Specific hazards No information available.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid handling which leads to dust formation. Use protective equipment appropriate for surrounding materials. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment.

For non-emergency personnel Keep unnecessary and unprotected personnel away from the spillage.

6.2. Environmental precautions

Environmental precautions
Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Clean contaminated objects and areas thoroughly, observing environmental regulations. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Provide adequate ventilation.

6.4. Reference to other sections

Sodium Hydroxide Anhydrous

Reference to other sections Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Thorough dedusting.

Information about fire - and explosion protection No special treatment required.

7.2. Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles Unsuitable container materials: Aluminium.

Storage precautions Keep contents moist. Avoid contact with acids and alkalis. Keep container tightly closed and dry.

Storage class 8 B (TRGS 510) Non flammable, corrosive substances.

7.3. Specific end use(s)

Specific end use(s) No information available.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

MAK (Germany)/MAK (EU) vgl. Abschn.IV

DNEL Workers - Inhalation; Long term : 1 mg/m³

Additional information: MAK (EU): Long-term value: 200 mg/m³, 300 ppm
MAK (Switzerland): Short-term value: 2 e mg/m³; Long-term value: 2 e mg/m³; SSc The lists valid during the making were used as basis.

8.2. Exposure controls

Protective equipment



Personal protection Keep away from food, drink and animal feeding stuffs. Promptly remove any clothing that becomes contaminated. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Avoid contact with skin and eyes.

Eye/face protection Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated.

Hand protection Wear protective gloves. It is recommended that chemical-resistant, impervious gloves are worn. It is recommended that gloves are made of the following material: Nitrile rubber. Chloroprene rubber. Butyl rubber. Thickness: ≥ 0.5 mm Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. The selected gloves should have a breakthrough time of at least 8 hours. To protect hands from chemicals, gloves should comply with European Standard EN374.

Respiratory protection Respiratory protection may be required if excessive airborne contamination occurs. Vapours/aerosol spray may irritate the respiratory system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Sodium Hydroxide Anhydrous

Appearance	Solid.
Colour	White.
Odour	Odourless.
pH	Not applicable.
Melting point	319°C
Initial boiling point and range	1,390°C (DIN 51751)
Flash point	Not applicable.
Flammability (solid, gas)	The product is not flammable.
Vapour pressure	3.5 hPa @ 800°C
Density	2.13 g/cm ³
Solubility(ies)	Soluble in water. 420 g/l @ 20°C
Partition coefficient	Not determined.
Viscosity	Not applicable.
Explosive properties	Not considered to be explosive.
Organic solvents	0.0%
VOC (EC)	0.00%
Solid content	100.0%

9.2. Other information

Other information No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Thermal decomposition / conditions to be avoided Does not decompose when used and stored as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid Product is hygroscopic. Avoid contact with moisture.

10.5. Incompatible materials

Materials to avoid Metal or metallic solid. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air. Acids. Organic cyanides (nitriles). Alkaline earth metals. Powdered metal. 2. Ammonium compounds Cyanides. Magnesium. Organic nitro compounds. Take any precaution to avoid mixing with combustibles, alkalis and organic materials. Phenols, cresols.

10.6. Hazardous decomposition products

Sodium Hydroxide Anhydrous

Hazardous decomposition products None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Based on available data the classification criteria are not met.

Acute toxicity -

oral Acute toxicity 2,000.0
oral (LD₅₀)
mg/kg)

Species Rat

Skin corrosion/irritation

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/irritation

Serious eye damage/irritation Causes severe skin burns and eye damage. Causes serious eye damage

Respiratory sensitisation

Respiratory sensitization Based on available data the classification criteria are not met

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met

Specific target organ toxicity - single exposure

Based on available data the classification criteria are not met.

STOT - single exposure

Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

Based on available data the classification criteria are not met.

STOT - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Based on available data the classification criteria are not met.

Aspiration hazard

Based on available data the classification criteria are not met.

Sodium Hydroxide Anhydrous

SECTION 12: Ecological information

General Notes Control run-off water by containing and keeping it out of sewers and watercourses. Avoid discharge into drains and the aquatic environment. The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

12.1. Toxicity

Acute aquatic toxicity

Acute toxicity - fish EC₅₀, 24 hours: 76 mg/l, Daphnia magna
 LC₅₀, 48 hours: 99 mg/l, Lepomis macrochirus (Bluegill)
 , : 45.4 mg/l, Oncorhynchus mykiss (Rainbow trout)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulative potential No information available.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment Not applicable.

12.6. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste via a licensed waste disposal contractor. Dispose of this material and its container to hazardous or special waste collection point. Avoid the spillage or runoff entering drains, sewers or watercourses.

European waste catalogue: 06 02 04* : sodium and potassium hydroxide

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) UN 1823

UN No. (IMDG) UN 1823

UN No. (ICAO) UN 1823

14.2. UN proper shipping name

Proper shipping name (ADR/RID) UN1823 SODIUM HYDROXIDE, SOLID

Sodium Hydroxide Anhydrous

Proper shipping name (IMDG) SODIUM HYDROXIDE, SOLID

Proper shipping name (ICAO) SODIUM HYDROXIDE, SOLID

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C6
ADR/RID label	8
IMDG class	8
ICAO class/division	8

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Warning Corrosive

Danger code(Kemler):	80
EmS	F-A, S-B
Stowage Category	A
ADR transport category	2
Emergency Action Code	2W
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)
Segregation Code:	SG35 Stow "separated from" acids.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78

and the IBC Code

ADR and IMDG:

Excepted quantities (EQ):	Code: E2
Limited quantities (LQ)	1 Kg
Maximum net quantity per inner packaging:	30 g

Sodium Hydroxide Anhydrous

Maximum net quantity per outer packaging:	500 g
Transport Category:	2
Tunnel Restriction Code:	E
ADR and IMDG Remarks:	Lösungen: 8.42b, KZ 80, UN 1824, Gz 8
UN "Model Regulation":	UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

Regulatory Exposure Limit(s): Listed below for the product components that have regulatory occupational exposure limits (OEL's).

Sodium Hydroxide 1310-73-2: OSHA Final PEL TWA: 2 mg/m³.

OSHA Final PEL STEL: ----- OSHA Final PEL Ceiling: -----

OEL: Occupational Exposure Limit;

OSHA: United States Occupational Safety and Health Administration;

PEL: Permissible Exposure Limit;

TWA: Time Weighted Average;

STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S):

Listed below for the product components that have non-regulatory occupational exposure limits (OEL's). –

The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993). –

The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States.

The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

Sodium Hydroxide 1310-73-2. ACGIH TWA: -----

ACGIH STEL: -----

ACGIH Ceiling: 2 mg/m³

OSHA TWA: -----

OSHA STEL: -----

OSHA Ceiling: 2 mg/m³

ENGINEERING CONTROLS: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Sodium Hydroxide Anhydrous

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	<p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>ICAO: International Civil Aviation Organisation</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>IATA: International Air Transport Association.</p> <p>GHS: Globally Harmonized System.</p> <p>EINECS: European Inventory of Existing Commercial and Chemical Substances</p> <p>CAS: Chemical Abstracts Service.</p> <p>VOC: Volatile Organic Compounds (USA,EU)</p> <p>DNEL: Derived No Effect Level.</p> <p>LC50: Lethal concentration, 50 percent</p> <p>LD50: Lethal dose, 50 percent</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p> <p>Met. Corr. 1: Corrosive to metals, Hazard Category 1</p> <p>Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A</p> <p>WGK: German Water Hazard Class.</p>
Revision date	05/03/2020
Revision	01
Supersedes date	05/10/2019
SDS number	4610
Hazard statements in full	<p>H290 May be corrosive to metals.</p> <p>H314 Causes severe skin burns and eye damage.</p>
Disclaimer	<p>This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.</p>

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 mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC1
Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
- **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 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.

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
PC15 Non-metal-surface treatment products
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization 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 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture 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 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
- **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article)
ERC7 Use of functional fluid at industrial site.
ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor)
ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
ERC9a Widespread use of functional fluid (indoor)
- **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.
- **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.
- **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.
- **Guidance for downstream users** No further relevant information available.

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 Processing aids such as pH-regulators, flocculants, precipitants, neutralization 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.
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.
- **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.