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

1.1 Product identifier

Trade name / CAS Number:	SODIUM HYDROXIDE, 49 % min. technical grade / 1310-73-2
Identification number:	011-002-00-6
Registration number:	01-2119457892-27-0030

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

Identified uses:	In chemical, textile, food and metallurgical industries, processing oils and fats, soap, a diluted solution for washout of the beer and milk bottles.
Uses advised against:	None known.

1.3 Detail of the supplier of the safety data sheet

Manufacturer:	SPOLANA a.s.
Registered office:	Práce 657, 277 11 Neratovice, Česká republika
Company ID:	451 47 787
Phone:	Tel: +420 315 662 555 Fax: +420 315 666 633
Competent responsible person:	Tel: +420 315 662 555 Mail: reach@spolana.cz

1.4 Emergency telephone number

Klinika pracovního lékařství VFN a 1. LF UK
Toxikologické informační středisko
Na Bojišti 1, 120 00, Praha 2

Tel: +420 224 919 293, +420 224 915 402
E-mail: tis@vfn.cz

Information for health risks - acute poisoning of humans and animals

SECTION 2: Hazards identification

Classification of the substance:	Substance is classified as dangerous.	
Dangerous health effects:	It causes severe skin burns and eye damage.	
Dangerous environmental effects:	Substance does not meet classification criteria.	

2.1 Classification of the substance or mixture

Classification according to (ES) 1272/2008:	Codes for hazard classes and categories	Skin Corr. 1A
	Hazard code phrases	H314 Causes severe skin burns and eye damage.

2.2 Label elements

Hazard pictogram	
Signal word	Danger
Precautionary statements	P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): 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.

2.3 Other hazards

When mixed with acids danger exothermic reaction, a strong evolution of heat and splashing of the reaction mixture. Beware of heat generation upon dilution with water.

SECTION 3: Composition/information on ingredients

3.1 Substances

The major component identifier:	Name	SODIUM HYDROXIDE, 49 % min. technical grade		
	Identification number	Index number	CAS number	EC number
		011-002-00-6	1310-73-2	215-185-5
The minor component / impurity identifier:	Name	Impurities at required concentrations are not present.		
	Identification number	Index number	CAS number	EC number
		-	-	-

SECTION 4: First aid measures

4.1 Description of first aid measures

Immediately interrupt the exposure.

4.2 The most important acute and delayed symptoms and effects

Inhalation:	It is not relevant to the nature of the substance.
Skin contact:	Immediately remove soiled clothing. Spills rinse with water for 10-30 minutes. Etched parts of the skin cover with a sterile dressing. Victim protect against hypothermia. Seek medical attention.
Eye contact:	Immediately rinse your eyes gently under running water. When it is necessary to open the eyelids, fingers and even using violence. If necessary, remove contact lenses. Lavage performed at least 15 minutes. Ensure medical treatment even if it is a little affected.
Ingestion:	Immediately let the victim drink 2-5 dl as the coldest (iced) water to reduce the thermal effect of caustic (due to the almost immediate effect on the mucous membranes, it is preferable to quickly bring water from the tap). Do not give food, not to make a drink, do not give activated charcoal. Do not try to induce vomiting! Perforation of the digestive tract threatening! Seek medical attention.

4.3 Indication of any immediate medical attention and special treatment needed

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Small volumes: carbon dioxide, water spray, foam. Large volumes: heavy foam, water mist.
Unsuitable extinguishing media:	Adapt to burning substances and devices in the vicinity.

5.2 Special hazards arising from substance or mixture

Not known

5.3 Advice for firefighters

Use an isolation respirator to protect respiratory system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Must be prevented from direct contact with sodium hydroxide. Do not touch the material that escaped out of the packaging. Keep unauthorized persons outside the affected area. Isolate the danger area and deny access. Inform local emergency centre (police, firefighters).

6.2 Environmental precaution

Clean the contaminated area as soon as possible. Stop leak if possible without personal risk.
Soil contamination: Make anchoring sites like lagoons or ponds to escape detention. Cover with plastic sheet and thus minimize the spread of the released pollutants. Avoid contact with water.

6.3 Methods and materials for containment and cleaning up

Collect spilled material in an appropriate container for further processing or disposal. Small spills absorb first sand or other non-combustible materials. Gather thus contaminated material in an appropriate container for further disposal.

6.4 Reference to other sections

None

SECTION 7: Handling and storage

7.1 Precaution for safe handling

When working with the product and after it, until thorough washing with soap and warm water, do not eat, drink or smoke. When handling and storage, follow safety guidelines for handling corrosive liquids.

7.2 Conditions for safe storage including any compatibilities

Store and handle in accordance with all current regulations and standards applicable to caustics. Store in a dry, well ventilated and cool place. Keep away from incompatible materials.

7.3 Specific end uses

When sodium hydroxide is used for disinfecting objects and surfaces in the food industry should be subsequently their surface thoroughly (several times) rinsed with potable water. Attention strong caustic!

SECTION 8: Exposure control/personal protection

8.1 Control parameters

The national occupational exposure limit values according to Government regulation No. 361/2007 Coll.:

Substance name	CAS number	8-hours PEL mg/m^3	Short term NPK-P mg/m^3	Note
Sodium hydroxide	1310-73-2	1	2	-

The occupational exposure limit values according to Directives 39/2000/EC and 15/2006/EC

Substance name	CAS number	8-hours PEL mg/m^3	Short term NPK-P mg/m^3	Note
Sodium hydroxide	1310-73-2	Not mentioned	Not mentioned	

DNEL	1.0 mg/m³ (long-term, inhalation)
PNEC	infinitely soluble

8.2 Exposure control

Personal protective equipment

Respiratory protection:	Under conditions of massive or repeated exposure should be used to protect the airway appropriate respirator.
Eye protection:	Workers are required to wear protective goggles or face shield.
Hand protection:	Protective gloves with these specifications:

Working activity	Glove material	Minimal thickness	Penetration time
Common working activities with the possible risk of contamination	Natural latex (KCL-706) Nitrile (KCL-732)	0,6 mm 0,4 mm	> 480 min > 480 min
Use during the liquidation of leaks and during accidents	Viton (KCL-890)	0,7 mm	> 480 min

Skin protection:	Workers are required to wear suitable protective clothing to avoid prolonged contact with the substance. Furthermore, it must be prevented from direct contact with sodium hydroxide. When working in a laboratory scale, it is necessary to adhere to the principles CSN 01 8003 and in particular the use of so-called safety pipettes. Furthermore, follow regulations for handling corrosive liquids. Where there is any possibility of contact with the employees, must be first aid established in the work area at the fountain eyewash and safety shower (at least a suitable water flow).

Environmental exposure control

Do not discharge into the sewer system, surface water and soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	colourless liquid, clear or slightly cloudy
Odour:	odourless
Odour threshold:	odourless
pH (at 20°C):	14 (49% solution NaOH)

	Melting point / freezing point (°C):	No data available
	Boiling point and boiling range (°C):	143 °C
	Flash point (°C):	Non-flammable
	Evaporation rate	Almost does not evaporate.
	Flammability:	Non-flammable
	Explosive or flammability range: upper (% vol.):	Non-explosive
	lower (% vol.):	
	Vapour pressure	Almost 0.
	Vapour density	Almost does not evaporate.
	Relative density (water=1)	1.54 (20 °C)
	Solubility:	unlimitedly miscible with water and ethanol
	Partition coefficient: n-octanol / water:	Not applicable.
	Auto ignition temperature:	Non-flammable
	Decomposition temperature:	No decomposition if correctly stored and handled.
	Viscosity:	0.0362 Pa.s (40 %, 20 °C)
	Explosive properties:	Non-explosive
	Oxidising properties:	Do not occur.
9.2	**Other information** Reacts with fat to form soaps. During dilution with water, a large amount of heat is released.	

SECTION 10: Stability and reactivity

10.1	**Reactivity** Rapid reaction with acidic substances (neutralization), and certain metals.
10.2	**Chemical stability** Under normal conditions stable.
10.3	**Possibility of hazardous reactions** Rapid reaction with acidic substances (neutralization), and certain metals.
10.4	**Conditions to avoid** Contact with acids, certain metals, ammonium salts, and halogenated hydrocarbons. During dilution with water is very exothermic.
10.5	**Incompatible materials** acids: possibly violent reaction aluminium: violent reactions metals: corrosive metals react to form flammable hydrogen (e.g. Fe, especially intensely manifested Al, Na, etc.). ammonium salts: possibly violent reaction with evolution of ammonia halogenated hydrocarbons: stormy reactions hydrochloric, nitric, acetic, sulphuric and other acids: mixing in closed containers may cause a sharp rise in temperature and pressure iron: metal in the solution slowly corrodes lead: it can be attacked, can lead to release of flammable hydrogen metals: corrosive metals react with the formation of flammable hydrogen organic peroxides: incompatible tetrachloroethylene: potentially explosive tetrahydrofuran: serious danger of explosion tin: evolution of hydrogen, which may form explosive mixtures zinc (dust): the danger of fire and explosion
10.6	**Hazardous decomposition products** hydrogen: formed during the reaction with certain metals (Zn, Al, etc.). ammonia: formed during the reaction with ammonium salts

SECTION 11: Toxicological information

11.1	**Information on toxicological effect**
	a) ***Acute toxicity*** Acute toxicity NaOH is not known.
	b) ***Skin corrosion/irritation*** Corrosive
	c) ***Serious eye damage/irritation***

		Corrosive
	d)	***Respiratory or skin sensitisation*** Based on the available data substance does not meet the criteria for classification.
	e)	***Germ cell mutagenicity*** Based on the available data substance does not meet the criteria for classification.
	f)	***Carcinogenicity*** Based on the available data substance does not meet the criteria for classification.
	g)	***Reproductive toxicity*** Reproductive toxicity NaOH is not known.
	h)	***Specific target organ toxicity – single exposure*** Acute toxicity NaOH for specific organs is unknown.
	i)	***Specific target organ toxicity – repeated exposure*** Chronic toxicity NaOH for specific organs is unknown.
	j)	***Aspiration hazard*** At low concentrations (inhalation of mist) irritates the mucous membranes of the respiratory system.

SECTION 12: Ecological information

12.1	**Toxicity**
	Fish Acute toxicity NaOH for fish is not known.
	Algae Acute toxicity NaOH for algae is not known.
	Daphnia EC_{50} = 40.4 mg/l (48 h)
	Bacteria Acute toxicity NaOH for bacteria is not known.
12.2	**Persistence and degradability** Not relevant.
12.3	**Bioaccumulative potential** Not relevant
12.4	**Mobility in soil** Immobile
12.5	**Results of PBT a vPvB assessment** Substance is not PBT or vPvB substance.
12.6	**Other adverse effects** Thanks to its high alkalinity poses a significant risk to the environment.

SECTION 13: Disposal considerations

13.1	**Waste treatment methods**	
	a)	Suitable methods for removing the substance or preparation and contaminated packaging: Comply with all applicable laws and regulations on waste. Remnants of sodium hydroxide must not be discharged into drains, watercourses or near water sources, as well as rinse water containing sodium hydroxide. Draining water containing hydroxide into drains and watercourses, it is permissible after neutralization according to the conditions laid down by local authorities. Empty packaging can be recycled after thorough emptying. Tanks used for the transport of sodium hydroxide are returned to the manufacturer. Disposal of residues in the tanks provided by the manufacturer.
	b)	Physical/chemical properties that may affect waste treatment: Sodium hydroxide causes a strong increase in pH.
	c)	Avoiding waste disposal through sewerage Spilled NaOH solution must first be neutralized with an appropriate acid solution. Only then can spill into sewerage. Big storage tanks must be equipped with emergency sumps, where in case of leakage hydroxide solution captures and where it can be pumped to waste processing or for further processing.
	d)	Special precaution for any recommended waste treatment None.

SECTION 14: Transport information

14.1 UN number: 1824

14.2 UN proper shipping name

ADR	Sodium hydroxide, solution
RID	Sodium hydroxide, solution
IMDG:	SODIUM HYDROXIDE SOLUTION
ICAO/IATA:	sodium hydroxide solution

14.3 Transport hazard class(es)

ADR	*RID*	*IMDG*	*ICAO/IATA*
8	8	8	8

Classification

ADR	*RID*
C5	C5

14.4 Packing group

ADR	*RID*	*IMDG*	*ICAO/IATA*
II	II	II	II

Hazard identification (Kemler)

ADR
80

Label

ADR	*RID*	*IMDG*	*ICAO/IATA*
8	8	8	8

Note

ADR	*RID*	*IMDG*	*ICAO/IATA*
None	None	Marine pollutant: no EmS: F-A, S-B	PAO: 809 CAO: 813

14.5 Environmental hazard

-

14.6 Special precaution for users

-

14.7 Transport in bulk according to Annex II MARPOL 73/78 and IBC Code

Does not transport.

SECTION 15: Regulatory information

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

Act no. 350/2011 Coll. in the effective wording, including implementing regulations
Act no. 102/2001 Coll. in the effective wording, including implementing regulations
Act no. 185/2001 Coll. in the effective wording, including implementing regulations
Act no. 258/2000 Coll. in the effective wording, including implementing regulations
Regulation ES 1907/2006 (REACH)
Regulation ES 1272/2008 (CLP)

15.2 Chemical safety assessment

Chemical safety assessment was carried out.

SECTION 16: Other information

a) Changes made in the SDS
Contact actualization

	b)	Key or legend to abbreviations and acronyms	
		ADN	International Carriage of Dangerous Goods by Inland Waterways
		ADR	Accord Dangerousness Route
		IATA	International Air Transport Association
		ICAO	International Civil Aviation Organization
		IMDG	International Maritime Dangerous Goods
		PBT	Persistent, bioaccumulative and toxic
		RID	International Transport of Dangerous Goods by Rail
		Skin Corr. 1A	Skin corrosion/irritation, hazard category 1A
		vPvB	Very persistent, very bioaccumulative
	c)	Key literature references and sources of data Expert databases and further regulations related to chemical legislation. Freely available safety data sheets manufacturers in the world.	
	d)	List of relevant hazard statements, safety phrases and/or precautionary statements	
		H314	Causes severe skin burns and eye damage.
		P264	Wash thoroughly after handling.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
		P303+P361+P353	IF ON SKIN (or hair): 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
	e)	Appropriate training for workers People handling the product must be informed about the risk of possible life and health hazards and about requirements for the protection of health and environment	
	f)	More information Information given here is based on our best knowledge and current legislation. Pursuant to Article 35 of the Regulation of the European Parliament and Council (EC) No. 1907/2006, every employer must enable its employees and their representatives to access the information contained in the safety data sheet covering the substance / preparation the employees use, or to whose effects the employees are exposed at work.	