# Safety data sheet
## according to 1907/2006/EC, Article 31

revised on: 21.12.2022 Version number 3 Creation Date: 23.11.2017

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

· **1.1 Product identifier**

· **Trade name: Sodium hydroxide**

· **Article number:** 1314, 1355, 1372
· **CAS Number:**
1310-73-2
· **EC number:**
215-185-5
· **Index number:**
011-002-00-6
· **Registration number** 01-2119457892-27-XXXX
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Life cycle stages** IS Use at industrial Sites
· **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU9 Manufacture of fine chemicals
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
SU24 Scientific research and development
· **Product category**
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC39 Cosmetics, personal care products
PC40 Extraction agents
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of 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
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)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC3 Formulation into solid matrix
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
· **Application of the substance / the mixture**
Industrial use
Laboratory chemicals
Reagent for analysis
Laboratory use

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Th. Geyer GmbH & Co. KG
Dornierstr. 4 – 6
D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417
www.thgeyer.de

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sicherheitsdatenblaetter@thgeyer.de

· **Further information obtainable from:** Product management department

· **1.4 Emergency telephone number:**
National Poisons Information Service
City Hospital
Dudley Road
Birmingham B18 7QH
Tel.:Emergency: (00 44) 87 06 00 62 66
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

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## SECTION 2: Hazards identification

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

GHS05 corrosion

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

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

GHS05

· **Signal word** Danger
· **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. |
| P264 | Wash thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P310 | Immediately call a POISON CENTER/doctor. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| 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.

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## SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
CAS: 1310-73-2 Sodium hydroxide
· **Identification number(s)**
· **EC number:** 215-185-5
· **Index number:** 011-002-00-6
· **Specific concentration limits**
Skin Corr. 1A; H314: C ≥ 5 %
Skin Corr. 1B; H314: 2 % ≤ C < 5 %
Skin Irrit. 2; H315: 0.5 % ≤ C < 2 %
Eye Irrit. 2; H319: 0.5 % ≤ C < 2 %

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## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
First aider needs to protect himself.
Immediately remove any clothing soiled by the product.
· **After inhalation:**
In case of irritation of the respiratory tract, consult a doctor.
Supply fresh air.
Call a doctor immediately.
In case of irregular breathing or respiratory arrest, seek medical attention immediately and administer first aid.
· **After skin contact:**
Immediately remove any clothing soiled by the product.
Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
Wash with water and soap.
· **After eye contact:**
Remove contact lenses
Protect unharmed eye.
Rinse out opened eye for several minutes under running water.
Consult an ophthalmologist immediately.
· **After swallowing:**
Rinse mouth thoroughly with water.
Rinse out mouth and then drink plenty of water.
Do not induce vomiting
Call emergency doctor
· **Information for doctor:** Please observe safety data sheet/label.
· **4.2 Most important symptoms and effects, both acute and delayed**
Nausea
Risk of aspiration
Gastric or intestinal disorders
Dermatitis (skin drying)
Corneal opacity
· **Hazards**
Danger of gastric perforation.
Danger of pulmonary oedema.
Risk of organ damage (liver, kidney)
Danger of pneumonia.
· **4.3 Indication of any immediate medical attention and special treatment needed**
Give Glucocorticoid-Aerosol in case of lung irritation.
If necessary oxygen respiration treatment.
Monitor circulation.
Later observation for pneumonia and pulmonary oedema.

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Symptomatic treatment.

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## SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon dioxides (CO, CO□)
Not combustible.
Formation of toxic gases is possible during heating or in case of fire.
Under certain fire conditions, traces of other toxic gases cannot be excluded.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Keep people at a distance and stay on the windward side.
Do not inhale dust.
Ensure adequate ventilation.
Avoid contact with eyes and skin.
Product forms slippery surface when combined with water.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:**
Prevent from spreading (e.g. by damming-in or oil barriers).
Keep contaminated washing water and dispose of appropriately.
Do not allow to enter sewers/surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Cover drains.
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
Use neutralising agent.
Ensure adequate ventilation.
Dispose of the material collected according to regulations.
· **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**
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Provide suction extractors if dust is formed.
Apply the general protection and hygiene measures for the handling with chemicals.

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Thorough dedusting.
· **Information about fire - and explosion protection:**
Substance itself does not burn, tuning measures to environment

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Provide alkali-resistant floor.
Prevent any seepage into the ground.
Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from metals.
Store away from water.
· **Further information about storage conditions:**
Store in dry conditions.
Protect from humidity and water.
Protect from frost.
Keep container tightly sealed.
· **Storage class:** 8 B
· **7.3 Specific end use(s)** No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

| · **Ingredients with limit values that require monitoring at the workplace:** | |
|---|---|
| **CAS: 1310-73-2 Sodium hydroxide** | |
| WEL | Short-term value: 2 mg/m³ |

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

· **8.2 Exposure controls**
· **Appropriate engineering controls** No further data; see item 7.
· **Individual protection measures, such as 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 when high concentrations are present.
· **Hand protection**

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**
Information on suitable glove materials is not available at present.
However, experience has shown that the glove materials polychloroprene, nitrile rubber, butyl rubber, fluororubber and polyvinyl chloride are suitable for protection against undissolved solids.
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**
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/face protection**

Tightly sealed goggles

Face protection

· **Body protection:**

Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

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## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · **9.1 Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Physical state** | Solid |
| · **Colour:** | Colourless |
| · **Odour:** | Odourless |
| · **Melting point/freezing point:** | 324 °C |
| · **Boiling point or initial boiling point and boiling range** | 1,390 °C |
| · **Flammability** | Product is not flammable. |
| · **Lower and upper explosion limit** | |
| · **Lower:** | Not determined. |
| · **Upper:** | Not determined. |
| · **Flash point:** | Not applicable. |
| · **Decomposition temperature:** | Not determined. |
| · **pH** | >13 |
| · **Viscosity:** | |
| · **Kinematic viscosity** | Not applicable. |
| · **Dynamic:** | Not applicable. |
| · **Solubility** | |
| · **water:** | Soluble. |
| · **Partition coefficient n-octanol/water (log value)** | Not determined. |
| · **Vapour pressure at 800 °C:** | 3.5 hPa |
| · **Density and/or relative density** | |
| · **Density at 20 °C:** | ~2.3 g/cm³<br>Not determined. |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not applicable. |
| · **Particle characteristics** | See item 3. |
| · **9.2 Other information** | |
| · **Appearance:** | |
| · **Form:** | Crystalline |
| · **Important information on protection of health and environment, and on safety.** | |
| · **Auto-ignition temperature:** | Not determined. |
| · **Explosive properties:** | Product does not present an explosion hazard. |
| · **Molecular weight** | 40 g/mol |
| · **Change in condition** | |
| · **Evaporation rate** | Not applicable. |
| · **Information with regard to physical hazard classes** | |
| · **Explosives** | Void |

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| | |
|---|---|
| · **Flammable gases** | Void |
| · **Aerosols** | Void |
| · **Oxidising gases** | Void |
| · **Gases under pressure** | Void |
| · **Flammable liquids** | Void |
| · **Flammable solids** | Void |
| · **Self-reactive substances and mixtures** | Void |
| · **Pyrophoric liquids** | Void |
| · **Pyrophoric solids** | Void |
| · **Self-heating substances and mixtures** | Void |
| · **Substances and mixtures, which emit flammable gases in contact with water** | Void |
| · **Oxidising liquids** | Void |
| · **Oxidising solids** | Void |
| · **Organic peroxides** | Void |
| · **Corrosive to metals** | May be corrosive to metals. |
| · **Desensitised explosives** | Void |

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## SECTION 10: Stability and reactivity

· **10.1 Reactivity** Substance or mixture having a corrosive effect on metals.
· **10.2 Chemical stability** Stable with proper storage and handling.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions**
Reacts with water and acids.
Reacts with organic substances.
Heating occurs when water is added.
Reacts violently with water.
May produce violent reactions with bases and numerous organic substances including alcohols and amines.
Reacts with certain metals.
· **10.4 Conditions to avoid**
Protect from humidity.
Heat, flames and sparks
· **10.5 Incompatible materials:** Avoid contact with other chemicals.
· **10.6 Hazardous decomposition products:** On fire: see chapter 5

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## SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.

| · **LD/LC50 values relevant for classification:** | | |
|---|---|---|
| Oral | LD50 | 2,000 mg/kg (rat) |

· **Skin corrosion/irritation** Causes severe skin burns and eye damage.
· **Serious eye damage/irritation**
Causes severe eye damage.
Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single 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.

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· **11.2 Information on other hazards**
· **Endocrine disrupting properties** Substance is not listed.

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## SECTION 12: Ecological information

· **12.1 Toxicity**

| · **Aquatic toxicity:** | |
|---|---|
| EC50 | 40.4 mg/l (Cru) |

· **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.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
· **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.

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## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
Observe local (country-specific) regulations and laws
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Chemicals must be disposed of in compliance with the respective national regulations.

| · **European waste catalogue** | |
|---|---|
| 06 00 00 | WASTES FROM INORGANIC CHEMICAL PROCESSES |
| 06 02 00 | wastes from the MFSU of bases |
| 06 02 04* | sodium and potassium hydroxide |
| HP8 | Corrosive |

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

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## SECTION 14: Transport information

| · **14.1 UN number or ID number** | |
|---|---|
| · **ADR, IMDG, IATA** | UN1823 |
| · **14.2 UN proper shipping name** | |
| · **ADR** | 1823 SODIUM HYDROXIDE, SOLID |
| · **IMDG, IATA** | SODIUM HYDROXIDE, SOLID |

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| | |
|---|---|
| · **14.3 Transport hazard class(es)** | |
| · **ADR** | |
|  | |
| · **Class** | 8 (C6) Corrosive substances. |
| · **Label** | 8 |
| · **IMDG, IATA** | |
|  | |
| · **Class** | 8 Corrosive substances. |
| · **Label** | 8 |
| · **14.4 Packing group** | |
| · **ADR, IMDG, IATA** | II |
| · **14.5 Environmental hazards:** | Not applicable. |
| · **14.6 Special precautions for user** | Warning: Corrosive substances. |
| · **Hazard identification number (Kemler code):** | 80 |
| · **EMS Number:** | F-A,S-B |
| · **Segregation groups** | (SGG18) Alkalis |
| · **Stowage Category** | A |
| · **Segregation Code** | SG35 Stow "separated from" SGG1-acids |
| · **14.7 Maritime transport in bulk according to IMO instruments** | Not applicable. |
| · **Transport/Additional information:** | |
| · **ADR** | |
| · **Limited quantities (LQ)** | 1 kg |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g |
| · **Transport category** | 2 |
| · **Tunnel restriction code** | E |
| · **IMDG** | |
| · **Limited quantities (LQ)** | 1 kg |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g |
| · **UN "Model Regulation":** | UN 1823 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**

| · **Inventory of Hazardous Chemicals** | |
|---|---|
| CAS: 1310-73-2 | Sodium hydroxide |

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· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
· **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not 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.
Application, use and handling of our products take place out of our control and are solely your responsibility.

· **Department issuing SDS:** Product management
· **Contact:** Product management
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international 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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals – Category 1
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
· *** Data compared to the previous version altered.**