# SAFETY DATA SHEET

## Sodium Hydroxide Solution (47–50 %) — Laboratory Reagent, Analytical Reagent, PV Pure and Ultrapure PPB grades

Prepared in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024 amendment / GHS Rev. 7), UN GHS, US DOT 49 CFR Parts 171–180 and Canada HPR (SOR/2015-17)

| | |
|---|---|
| **SDS number** | **HP-SDS-28000-US-01** |
| **Version / Revision** | Version 1.0 |
| **Issue date** | 01 November 2026 |
| **Supersedes** | Not applicable (first issue) |
| **Review due** | 01 November 2029, or earlier if new hazard information becomes available |
| **Companion sheet** | A GB/EU sheet for supply by Highpuris Ltd will be issued separately. Do not substitute one sheet for the other — the classification is the same but the exposure limits, supply restrictions and legal references are not. |

## 1 SECTION 1: IDENTIFICATION

### 1.1 Product identifier

| | |
|---|---|
| **Product name** | **Sodium Hydroxide Solution (47–50 %)** |
| **Product description** | Aqueous solution of sodium hydroxide, nominal 50 % w/w (assay 47 – 50 % w/w NaOH; density 1.51 – 1.53 g/mL). Laboratory Reagent and Ultrapure PPB grades 47 – 50 %; Analytical Reagent and PV Pure grades 48 – 50 %. All grades carry the same hazard classification and transport description. |
| **Synonyms** | Caustic soda solution; Sodium hydrate; Soda lye; Lye; Hydroxyde de sodium |
| **CAS number** | 1310-73-2 |
| **EC (EINECS) number** | 215-185-5 |
| **EU Index number** | 011-002-00-6 |
| **REACH registration number** | Not applicable to supply in the United States. A REACH registration (or coverage under a registrant's supply chain) is required before placement in the EU/EEA or Northern Ireland; UK REACH applies to Great Britain. |
| **Molecular formula** | NaOH (aq) |
| **Molecular weight** | 40.00 g/mol (NaOH) |
| **Highpuris product code** | **28000** — the 9-digit catalogue SKUs below are built as product code · grade · pack |
| **Pack sizes covered** | 250 mL, 500 mL, 1 L and 2.5 L HDPE bottles (never glass), 25 L HDPE containers, 200 L HDPE drums and 1000 L IBCs; bottles are supplied in UN-certified multi-unit shipping cases |

### Catalogue SKUs covered by this SDS

| Grade | NaOH assay | Pack size and SKU |
|---|---|---|
| Laboratory Reagent | 47–50 % | 500 mL **280000123** · 1 L **280000141** · 2.5 L **280000142** · 25 L **280000162** · 200 L **280000164** · 1000 L **280000181** |
| Analytical Reagent | 48–50 % | 500 mL **280000223** · 1 L **280000241** · 2.5 L **280000242** · 25 L **280000262** · 200 L **280000264** · 1000 L **280000281** |
| PV Pure | 48–50 % | 25 L **280000362** · 200 L **280000364** · 1000 L **280000381** |
| Ultrapure PPB | 47–50 % | 250 mL **280000422** · 500 mL **280000423** · 1 L **280000441** |

### 1.2 Relevant identified uses of the substance and uses advised against


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- **Identified uses:** laboratory analytical reagent; titrant and standard-solution preparation, pH adjustment, neutralisation, extraction, digestion and cleaning; trace-metal (ppb) applications in semiconductor, photovoltaic and ICP-MS laboratories; further formulation and repackaging by professional users.
- **Uses advised against:** not for food, drug, pesticide, biocidal, cosmetic, medicinal, household or consumer use. Not intended for use by the general public. Not to be used in any application resulting in human ingestion or direct dermal application.

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| **Supplier** | **Highpuris LLC**<br>9920 Pacific Heights Blvd, Suite 150<br>San Diego, CA 92121-4361<br>United States of America |
| **Telephone** | +1 (401) 288-1196 |
| **E-mail (SDS contact)** | admin@highpuris.com · noreply@highpuris.com |
| **Website** | www.highpuris.com |

### 1.4 Emergency telephone number

| | |
|---|---|
| **24-hour emergency (USA / Canada)** | **CHEMTREC 1-800-424-9300** |
| **24-hour emergency (international)** | **CHEMTREC +1 703-527-3887** (collect calls accepted) |
| **CHEMTREC contract number** | **CCN 1024800** — Highpuris LLC, registered August 2026. Quote this number when calling; it must appear with the emergency telephone number on shipping papers under 49 CFR 172.604 |
| **Non-emergency (business hours)** | +1 (401) 288-1196, 09:00 – 17:00 Pacific Time, Monday to Friday |

## 2 SECTION 2: HAZARD(S) IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification under 29 CFR 1910.1200 (OSHA HCS 2024), UN GHS Rev. 7, EU CLP (EC) No 1272/2008 and Canada HPR:

| Hazard class | Category | Hazard statement |
|---|---|---|
| Corrosive to metals | Category 1 | H290 — May be corrosive to metals |
| Skin corrosion / irritation | Category 1A | H314 — Causes severe skin burns and eye damage |
| Serious eye damage / eye irritation | Category 1 | H318 — Causes serious eye damage |
| Specific target organ toxicity, single exposure (respiratory tract irritation) | Category 3 | H335 — May cause respiratory irritation |

*H318 is not required on the label where H314 is assigned (GHS labelling precedence rules). The harmonised EU classification for sodium hydroxide (Index No. 011-002-00-6) is Skin Corr. 1A, H314 and Met. Corr. 1, H290, with specific concentration limits: Skin Corr. 1A at C ≥ 5 %; Skin Corr. 1B at 2 % ≤ C < 5 %; Skin Irrit. 2 / Eye Irrit. 2 at 0.5 % ≤ C < 2 %. STOT SE 3 (H335, respiratory tract irritation by mist) is retained from the supplier's OSHA classification of the concentrated solution; it is not part of the harmonised entry.*

### 2.2 GHS label elements

Hazard pictograms — required on the label and on every shipped container:



GHS05 — Corrosion



GHS07 — Exclamation mark

*Pictograms must be a square set on a point, with a black symbol on a white ground and a red border wide enough to be clearly visible. Minimum size is one-fifteenth of the label surface area and never smaller than 10 mm × 10 mm (16 mm × 16 mm where the package holds more than 3 L). Where the corresponding DOT transport label is displayed on the outer packaging, the duplicate GHS pictogram may be omitted from that outer packaging under 29 CFR 1910.1200(f)(5); all pictograms remain required on the inner container label.*

| | |
|---|---|
| **Signal word** | **DANGER** |
| **Hazard statements** | H290 — May be corrosive to metals.<br>H314 — Causes severe skin burns and eye damage.<br>H335 — May cause respiratory irritation. |

**Precautionary statements — Prevention**

- P234 — Keep only in original packaging.
- P260 — Do not breathe dust, fume, gas, mist, vapours or spray.
- P264 — Wash hands and exposed skin thoroughly after handling.
- P271 — Use only outdoors or in a well-ventilated area.
- P280 — Wear protective gloves, protective clothing, eye protection and face protection.

**Precautionary statements — Response**

- 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.
- 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 or doctor.
- P363 — Wash contaminated clothing before reuse.
- P390 — Absorb spillage to prevent material damage.

**Precautionary statements — Storage and disposal**

- P402 — Store in a dry place.
- P403 + P233 — Store in a well-ventilated place. Keep container tightly closed.
- P405 — Store locked up.
- P406 — Store in a corrosive-resistant container with a resistant inner liner.
- P501 — Dispose of contents and container in accordance with federal, state, provincial and local regulations.

### 2.3 Other hazards which do not result in classification

- The 50 % solution crystallises at about 12 °C (54 °F). Store above 15 °C and thaw gently at room temperature — never with direct heat, steam or a naked flame; mix thoroughly after thawing because the crystals and the mother liquor differ in concentration.
- Dilution with water is strongly exothermic and can cause boiling and violent spattering. Always add the solution slowly to water with stirring and cooling — never add water to the solution.
- Attacks aluminium, zinc, tin and galvanised metal, liberating flammable hydrogen gas which can form explosive mixtures in container headspace and confined spaces.
- Absorbs carbon dioxide from the air to form sodium carbonate; closure threads can crust and seize, and the assay falls slowly in opened containers.
- Saponifies fats and dissolves skin protein: eye and skin burns are deep and may be initially painless, so damage can occur before discomfort is felt. Spilled liquid is very slippery.
- The substance does not meet PBT or vPvB criteria under REACH Annex XIII and is not an identified endocrine disruptor.

### 2.4 Unknown acute toxicity

Not applicable. Acute toxicity data are available for the substance; no component of unknown acute toxicity is present.

## 3 SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Mixture — aqueous solution (50 % w/w nominal; density 1.51 – 1.53 g/mL).

| Chemical name | CAS No. | EC No. | Conc. (% w/w) | GHS classification of the ingredient |
|---|---|---|---|---|
| Sodium hydroxide | 1310-73-2 | 215-185-5 | 47 – 50 | Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 |
| Water | 7732-18-5 | 231-791-2 | 50 – 53 | Not classified |

*EU Index number for sodium hydroxide: 011-002-00-6. Specific concentration limits in EU CLP Annex VI: Skin Corr. 1A / H314 at C ≥ 5 %; Skin Corr. 1B / H314 at 2 % ≤ C < 5 %; Skin Irrit. 2 / H315 and Eye Irrit. 2 / H319 at 0.5 % ≤ C < 2 %.*

*Impurities and stabilising additives: none deliberately added. Trace carbonate (from absorption of carbon dioxide), chloride and metal impurities are controlled to the grade specification and are not present at levels that alter the classification.*

## 4 SECTION 4: FIRST-AID MEASURES

### 4.1 Description of first-aid measures

**General.** Move the casualty out of the danger area. Rescuers must protect themselves — wear eye/face protection, gloves and, where mist is present, respiratory protection. Take off contaminated clothing and footwear immediately while flushing. Never give anything by mouth to an unconscious or convulsing person. Show this Safety Data Sheet to the attending physician. Immediate medical attention is required for all exposures.
**Inhalation.** Move the casualty to fresh air at once, lie them down and keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing has stopped, give artificial respiration — do not use mouth-to-mouth; use a bag-valve mask or other mechanical device. Obtain medical attention immediately. Pulmonary oedema may be delayed; keep the casualty under medical observation even if initially asymptomatic.
**Skin contact.** Immediately flush the affected area with copious quantities of lukewarm, gently flowing water while removing all contaminated clothing, shoes and jewellery. Wash off with plenty of water (and soap once gross contamination has been removed). Continue for at least 30 minutes — the supplier minimum is 15 minutes, but alkali burns penetrate deeply and keep damaging tissue until the alkali is removed. Do not attempt to neutralise with acids. Immediate medical attention is required. Continue flushing during transport to medical care. Wash contaminated clothing, including the inside, before re-use; discard heavily contaminated leather articles.
**Eye contact.** Immediately flush the eyes, including under the eyelids, with lukewarm, gently flowing water for at least 15 minutes (30 minutes or longer is recommended for alkali splashes), holding the eyelids wide open. Remove contact lenses if present and if it can be done without delay; do not interrupt flushing to do so. Immediate medical attention from an ophthalmologist is required. Continue irrigation en route to medical care. Permanent corneal damage and blindness may result.
**Ingestion.** Do NOT induce vomiting — the risk of perforation and aspiration makes vomiting dangerous. Clean the mouth with water. If the casualty is conscious and alert, have them drink plenty of water or milk in small sips. Do not give vinegar, acids or other neutralising agents; the resulting heat and gas evolution can damage tissue further. Do not attempt gastric lavage. Never give anything by mouth to an unconscious person. Call a physician immediately.

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

- Skin: causes burns by all exposure routes. Burns are deep, soapy-feeling and may be initially painless; redness, blistering, ulceration and scarring follow, and tissue destruction continues until the alkali is washed away.
- Eyes: severe pain, lacrimation, corneal burns and opacification; risk of permanent damage and blindness.
- Inhalation: mist irritates and burns the nose, throat and airways — cough, hoarseness, chest tightness and dyspnoea; high concentrations may cause chemical pneumonitis and delayed pulmonary oedema.
- Ingestion: severe burns of the mouth, throat, oesophagus and stomach; severe swelling and damage to delicate tissue with danger of perforation; vomiting (possibly with blood) and circulatory collapse in severe cases.
- Repeated contact with dilute solutions: dermatitis, skin dryness and cracking.

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

- Treat as a severe alkali burn. Symptomatic and supportive treatment.
- Following eye exposure, check the ocular surface pH and continue irrigation until it is neutral; arrange ophthalmological assessment.
- Monitor the airway closely after inhalation; laryngeal oedema and bronchospasm may require early intubation. Observe for delayed-onset pulmonary oedema.
- Use of gastric lavage or emesis is contraindicated. Possible perforation of the stomach or oesophagus should be investigated; endoscopy within 12 – 24 hours may be indicated to assess the extent of injury. Activated charcoal is of no value and obscures the endoscopic view.
- Do not use chemical neutralising agents on burns or in the gastrointestinal tract.

## 5 SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

- Suitable: the substance is non-flammable — use the extinguishing agent most appropriate to the surrounding fire (water spray or fog, dry chemical, carbon dioxide or foam). Water spray may be used to cool fire-exposed containers.
- Unsuitable: do NOT direct a solid water jet into the concentrated solution — heat of dilution causes violent spattering of corrosive liquid.

### 5.2 Special hazards arising from the substance or mixture

- Non-combustible; flash point not applicable. No autoignition temperature or explosion limits are available for the solution.
- Contact with aluminium, zinc, tin and galvanised metal produces flammable hydrogen gas (4 – 75 vol % in air), which can accumulate in container headspace.
- Thermal decomposition can release irritating gases and vapours; the hazardous combustion product is sodium oxides (sodium oxide / hydroxide fume).
- Containers may rupture violently when heated owing to internal pressure.
- The product itself causes severe burns of the eyes, skin and mucous membranes; fire-fighting water run-off is strongly alkaline and corrosive.

### 5.3 Advice for fire-fighters

- Wear a positive-pressure self-contained breathing apparatus (MSHA/NIOSH-approved or equivalent) and full protective gear. Structural fire-fighting turnout gear alone provides only limited protection against this material.
- Evacuate and isolate the area. Approach from upwind.
- Use water spray to cool fire-exposed containers; withdraw immediately if a rising sound from a venting safety device or discolouration of a tank occurs.
- Prevent run-off water from entering drains and watercourses; collect contaminated fire-fighting water separately for disposal.
- Refer to ERG 2024 Guide 154 (Substances — toxic and/or corrosive, non-combustible).

## 6 SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel.** Evacuate personnel to safe areas. Move upwind. Restrict access. Do not touch or walk through spilled material — it is extremely slippery. Avoid all contact with skin and eyes and avoid breathing mist. Alert the site emergency response team.

**For emergency responders.** Do not attempt response without suitable PPE: chemical splash goggles with full face shield, alkali-resistant suit and boots, butyl rubber or neoprene gloves, and a NIOSH-approved respirator with a P100 particulate filter (supplied-air respirator or SCBA where mist concentrations are unknown or exceed exposure limits). Ventilate confined spaces before entry. Initial isolation of at least 50 m (150 ft) in all directions for a small liquid spill is recommended; increase the distance for large spills and consult ERG Guide 154.

### 6.2 Environmental precautions

- Should not be released into the environment. Do not flush into surface water or the sanitary sewer system. Prevent entry into drains, sewers, groundwater and soil. Dyke or bund the spill.
- The solution raises the pH of receiving water and is harmful to aquatic life; it will also attack aluminium, zinc and galvanised drainage components.
- Report releases as required by law. Under CERCLA, a release of 1,000 lb (454 kg) or more of sodium hydroxide in a 24-hour period must be reported immediately to the National Response Center (1-800-424-8802); for this product this corresponds to approximately 2,000 lb (910 kg) of the 50 % solution (about 158 US gal).

### 6.3 Methods and material for containment and cleaning up

- Stop the leak if it can be done without risk. Upright leaking containers and transfer the contents to a sound, labelled, alkali-resistant (HDPE or PP) container.
- Soak up with inert absorbent material — dry sand, silica gel, universal binder or earth. Do NOT use combustible absorbents such as sawdust, paper or cloth with the concentrated solution: caustic soda degrades cellulose exothermically.
- Larger spills may be diluted and neutralised cautiously with a dilute weak acid (for example citric or dilute acetic acid) added slowly from a distance; neutralisation is strongly exothermic and may spatter — never confine the reaction and never neutralise inside a closed container.
- Collect the absorbed material into suitable, closed, labelled containers for disposal. Do not use aluminium or galvanised tools or containers.
- Flush the residual area with large volumes of water only after the bulk has been removed, collecting the wash water for pH adjustment and disposal. Take care — the floor remains slippery until fully rinsed.
- Ventilate the area thoroughly and, where metals were contacted, monitor for hydrogen before releasing the area.

### 6.4 Reference to other sections

See Section 8 for exposure controls and personal protection, and Section 13 for disposal considerations.

## 7 SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

- Use only in well-ventilated areas, preferably in a chemical fume hood or under local exhaust ventilation. Do not breathe mist, vapours or spray. Do not get in eyes, on skin or on clothing.
- When diluting, ALWAYS add the solution slowly to water with stirring and cooling — never add water to the solution. Use cold water and an alkali-resistant vessel (HDPE, PP, stainless steel).
- Use only alkali-resistant transfer equipment (HDPE, PP, PTFE, PVDF, PVC, 316 stainless steel). Never use aluminium, zinc, tin, galvanised or brass fittings.
- Wear the personal protective equipment specified in Section 8 at all times when handling.
- Open containers slowly to relieve any internal pressure; point the opening away from the face and body. Crystallised product around closures must be cleaned off before opening to avoid seizing and splashing.
- Do not eat, drink or smoke in the handling area. Wash hands and exposed skin thoroughly after handling; remove and wash contaminated clothing and gloves, including the inside, before re-use.

- Keep the container tightly closed when not in use to limit carbon dioxide uptake. Do not return unused material to the original container.
- Ensure an emergency eyewash station and safety shower are within 10 seconds' unobstructed travel of the work area.
- Empty containers retain product residue and remain corrosive — do not cut, weld, drill or reuse.

### 7.2 Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Storage conditions** | Keep in a dry, cool, well-ventilated place in the original container, tightly closed. Corrosives area. Keep locked up or in an area accessible only to authorised, trained personnel. |
| **Recommended temperature** | 15 – 25 °C (59 – 77 °F). Protect from freezing — the 50 % solution crystallises at about 12 °C (54 °F); store above 15 °C and thaw gently (warm room or warm-water bath, never direct heat). |
| **Containment** | Store on an alkali-resistant, bunded or kerbed floor with secondary containment of at least 110 % of the largest container. Segregate from other chemical classes. |
| **Suitable materials** | Original supplier packaging: HDPE and PP (never glass); PTFE, PVDF, PVC and CPVC; 316 stainless steel and nickel for bulk systems at ambient temperature. |
| **Unsuitable materials** | Aluminium, zinc, tin, lead, galvanised surfaces, brass, bronze and copper (attacked, with hydrogen evolution). Glass is slowly etched — it contaminates ultrapure grades and ground joints seize. |
| **Incompatible storage** | Segregate from acids and acid anhydrides, organic materials (including halogenated solvents and nitro compounds), metals (aluminium, copper, zinc), and ammonium salts. Do not store with flammable liquids or oxidisers in the same cabinet. |
| **Shelf life** | Indefinite when stored as specified in unopened original packaging; assay falls slowly after opening through carbon dioxide uptake (carbonate formation). Ultrapure grades should be opened only in a clean environment, after which trace-metal levels can no longer be guaranteed against the released specification. |

### 7.3 Specific end use(s)

Laboratory reagent and industrial process chemical. No further specific guidance beyond the identified uses in Section 1.2.

## 8 SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Occupational exposure limits — sodium hydroxide (CAS 1310-73-2)**

| Source | Type | Value |
|---|---|---|
| OSHA PEL (29 CFR 1910.1000, Table Z-1) | 8-hour TWA | 2 mg/m³ |
| NIOSH REL | Ceiling | 2 mg/m³ |
| ACGIH TLV | Ceiling | 2 mg/m³ |
| NIOSH IDLH | Immediately dangerous to life or health | 10 mg/m³ |
| Cal/OSHA PEL (8 CCR 5155) | Ceiling | 2 mg/m³ |
| Mexico OEL (NOM-010-STPS) | Ceiling | 2 mg/m³ |
| EU IOELV (Directive 2000/39/EC and later) | 8-hour TWA / STEL | None established. For reference, the UK EH40 WEL is a 15-minute STEL of 2 mg/m³ |

### 8.2 Exposure controls

**Appropriate engineering controls**

- Use in a certified chemical fume hood with a minimum face velocity of 0.5 m/s (100 ft/min), or under equivalent local exhaust ventilation captured at the point of generation, whenever mist may be generated (heating, spraying, vigorous dilution).
- Provide general dilution ventilation sufficient to keep airborne concentrations below the ceiling limit at all times. Exhaust ducting must be of corrosion-resistant construction.
- Safety shower and eyewash station must be immediately available and close to the workstation (ANSI/ISEA Z358.1).

**Eye and face protection**

- Tight-sealing chemical splash goggles conforming to ANSI/ISEA Z87.1 or EN 166, worn together with a full face shield whenever there is any risk of splashing, pouring or pressurised release. Ordinary safety spectacles are not adequate. Do not wear contact lenses.

**Skin and body protection**

- Gloves: butyl rubber or neoprene (≥ 0.5 mm; breakthrough time typically > 480 minutes, EN ISO 374 performance level 6) are preferred; PVC and heavy-duty nitrile are suitable for splash protection. Inspect before use and change immediately if contaminated; remove and wash

contaminated gloves, including the inside, before re-use. Confirm performance with the glove manufacturer for the specific task.
- Body: alkali-resistant apron or coveralls over a laboratory coat for small-scale work; a full chemically resistant suit (Type 3/4, EN 14605) with hood for bulk transfer, drumming and spill response.
- Feet: closed, chemically resistant boots or overboots. Trouser legs worn outside the boots.

**Respiratory protection**
- Not normally required where work is carried out in an effective fume hood. Where the ceiling limit may be exceeded or irritation is experienced, use a NIOSH/MSHA-approved respirator with a P100 / P3 particulate filter (EN 143) within its assigned protection factor.
- For unknown concentrations, oxygen-deficient atmospheres, emergency response or concentrations at or above 10 mg/m³ (IDLH), use a positive-pressure self-contained breathing apparatus or a supplied-air respirator with escape bottle.
- Respirator use requires a written programme under 29 CFR 1910.134, including medical evaluation, fit testing and training.

**Environmental exposure controls**
- Do not discharge to the environment. Neutralise aqueous effluent to the pH range permitted by the receiving authority before discharge. Route vent gases through a scrubber where mist is generated.

## 9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| Property | Value |
|---|---|
| Physical state | Liquid (crystallises below approximately 12 °C) |
| Colour | Clear, colourless |
| Odour | Odourless |
| Odour threshold | No information available |
| Melting point / freezing point | Approximately 12 °C (54 °F) for the 50 % w/w solution (crystallisation onset) |
| Boiling point / initial boiling point | > 100 °C (> 212 °F), estimated; typically approximately 140 – 145 °C (284 – 293 °F) at 101.3 kPa for a 50 % w/w solution |
| Flammability | Not flammable. Contact with some metals (aluminium, zinc, tin) liberates flammable hydrogen gas |
| Lower / upper explosion limit | No data available for the solution. Hydrogen evolved on contact with metals: 4 – 75 vol % in air |
| Flash point | Not applicable (non-combustible aqueous solution) |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| pH | > 14 (as supplied); approximately 13 for a 0.1 M aqueous solution at 20 °C |
| Kinematic / dynamic viscosity | No data available (the 50 % solution is far more viscous than water, and viscosity rises sharply as the temperature falls towards the crystallisation point) |
| Solubility (water) | Completely miscible with water in all proportions, with strong evolution of heat |
| Solubility (other) | Sodium hydroxide is soluble in ethanol, methanol and glycerol; insoluble in diethyl ether and acetone |
| Partition coefficient n-octanol/water (log Kow) | Not applicable — inorganic substance, fully ionised in water |
| Vapour pressure | No data available; low (water vapour pressure is depressed by the dissolved hydroxide) |
| Density / relative density | 1.51 – 1.53 g/mL (relative density 1.51 – 1.53) |
| Relative vapour density | > 1.0 (air = 1) |
| Particle characteristics | Not applicable (liquid) |
| Molecular weight | 40.00 g/mol (NaOH) |
| Evaporation rate | No information available |
| Oxidising properties | None |
| Explosive properties | None |
| Surface tension | Not determined |

| Property | Value |
|---|---|
| Concentration | 47 – 50 % w/w NaOH (Laboratory Reagent, Ultrapure PPB); 48 – 50 % w/w (Analytical Reagent, PV Pure); approximately 18 mol/L |

### 9.2 Other information

No additional physical or chemical hazard information. Test data above relate to the concentrated (47 – 50 % w/w) solution unless otherwise stated.

## 10 SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

A strong base that is highly corrosive. Reacts violently and exothermically with acids, with amphoteric metals and with a range of common laboratory and industrial chemicals as detailed below. Reactive hazard: yes — corrosive to metals.

### 10.2 Chemical stability

Stable under the recommended storage and handling conditions. Not sensitive to mechanical impact or static discharge. The solution absorbs carbon dioxide from the air to form sodium carbonate. Hazardous polymerisation does not occur.

### 10.3 Possibility of hazardous reactions

- Violent, heat-generating reaction with acids and acid anhydrides; can cause boiling and spattering. Dilution with water is strongly exothermic — always add the solution to water.
- Reaction with aluminium, zinc, tin, lead and galvanised metal (and, more slowly, copper, brass and bronze) releases flammable hydrogen gas, which may form an explosive atmosphere in enclosed spaces or container headspace.
- Reaction with ammonium salts liberates ammonia gas.
- Reaction with halogenated organic compounds (for example trichloroethylene) and with nitro compounds can generate heat, toxic or flammable products, or shock-sensitive salts.
- Saponifies fats and oils and attacks wool, leather and many natural fibres; hot concentrated solution etches glass and attacks silica-based materials.
- Reacts with carbon dioxide in air to form sodium carbonate.

### 10.4 Conditions to avoid

Exposure to air (carbon dioxide uptake); heat; freezing or crystallisation; contact with incompatible products and materials; confinement of evolved gas in closed systems.

### 10.5 Incompatible materials

| Class | Examples |
|---|---|
| Acids | Mineral and organic acids, acid chlorides and acid anhydrides |
| Metals and alloys | Aluminium, zinc, tin, lead, copper, galvanised surfaces, brass, bronze, magnesium, metal powders |
| Organic materials | Halogenated solvents (trichloroethylene and others), nitro compounds, phenols and cresols, aldehydes, cellulosic and natural-fibre materials |
| Ammonium salts | Ammonium chloride, ammonium sulfate and other ammonium compounds (ammonia evolution) |
| Reactive non-metals and hydrides | Phosphorus, silicon hydrides and other reducing agents that evolve hydrogen in alkali |
| Construction materials | Glass (etched; ground joints seize), concrete exposed to hot solution, polycarbonate, natural rubber and leather |

### 10.6 Hazardous decomposition products

Sodium oxides on thermal decomposition. Hydrogen gas on contact with amphoteric metals.

## 11 SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on hazard classes as defined in 29 CFR 1910.1200(c) / GHS

Likely routes of exposure: skin and eye contact, inhalation of mist, and accidental ingestion.

| Endpoint | Data and conclusion |
|---|---|
| Acute toxicity — oral | $LD_{50}$ (rat): 140 – 340 mg/kg bw (sodium hydroxide). Effects are principally local corrosion of the gastrointestinal tract; ingestion causes burns of the upper digestive and respiratory tracts. Not classified as a discrete acute-toxicity category in the supplier classification; corrosivity governs. |
| Acute toxicity — dermal | $LD_{50}$ (rabbit): 1,350 mg/kg bw (sodium hydroxide). Local corrosion dominates. Not classified. |
| Acute toxicity — inhalation | No $LC_{50}$ available. Mist is corrosive to the respiratory tract and the substance is reported as harmful by inhalation. Not classified for acute inhalation toxicity; respiratory irritation (STOT SE 3) and corrosivity govern. |
| Skin corrosion / irritation | Corrosive. Causes severe, full-thickness chemical burns on short contact. Classified Skin Corrosion Category 1A on the basis of the harmonised EU classification (Skin Corr. 1A at C ≥ 5 %) and human experience. Animal testing is not required for a substance of known corrosivity. |
| Serious eye damage / irritation | Causes serious, irreversible eye damage, including corneal opacification and blindness. Classified Eye Damage Category 1. |
| Respiratory or skin sensitisation | Based on available data, the classification criteria are not met (neither respiratory nor skin sensitiser). Not classified. |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. Not classified. |
| Carcinogenicity | Not listed by IARC, NTP, ACGIH, OSHA or Mexico as a carcinogen. Based on available data, the classification criteria are not met. Not classified. |
| Reproductive toxicity | Based on available data, the classification criteria are not met. Not classified. |
| STOT — single exposure | Category 3, respiratory tract irritation (H335). Mist is irritating to the nose, throat and airways; higher exposures can cause chemical pneumonitis and delayed pulmonary oedema. Target organ: respiratory system. |
| STOT — repeated exposure | Not classified. No target organs known. |
| Aspiration hazard | Based on available data, the classification criteria are not met. |

### 11.2 Other information

Target organs: eyes, skin, mucous membranes, respiratory system and gastrointestinal tract. Persons with pre-existing skin disorders, eye disease or chronic respiratory disease (asthma, chronic bronchitis, emphysema) may be at increased risk from exposure. Endocrine disrupting properties: this product does not contain any known or suspected endocrine disruptors.

*The toxicological properties of the concentrated solution have not been fully investigated in all endpoints; the assessment above is based on the properties of sodium hydroxide, its corrosivity and the pH of its solutions, which is the determining factor for local effects. Acute values quoted relate to the sodium hydroxide component.*

## 12 SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

| Endpoint | Value |
|---|---|
| Fish — acute | $LC_{50}$ (Oncorhynchus mykiss, rainbow trout, 96 h, static): 45.4 mg/L (sodium hydroxide). |
| Aquatic invertebrates — acute | No data available. Effects are attributable to the rise in pH rather than to intrinsic toxicity of the sodium ion. |
| Algae | No data available. Effects are attributable to the rise in pH. |
| Microorganisms | No data available. Activated sludge respiration is inhibited only at pH values outside the tolerance range of the biomass. |

*The ecotoxicity of sodium hydroxide is governed almost entirely by the pH elevation it causes in the receiving water. The product contains no substances known to be hazardous to the environment or not degradable in waste-water treatment plants; large amounts will affect pH and harm aquatic organisms. In waters of adequate buffering capacity the substance dissociates to sodium and hydroxide ions and is neutralised.*

### 12.2 Persistence and degradability

Soluble in water. Methods for determining biodegradability are not applicable to inorganic substances; persistence is unlikely.

### 12.3 Bioaccumulative potential

No information available. Not expected to bioaccumulate — a fully ionised inorganic base; log Kow is not applicable.

### 12.4 Mobility in soil

Likely to be mobile in the environment owing to its water solubility. Will be neutralised by soil acidity and carbon dioxide, and may mobilise some metal ions or organic matter at high pH; may reach groundwater where the soil buffering capacity is exhausted.

### 12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB under REACH Annex XIII.

### 12.6 Other adverse effects

Germany water hazard class WGK 1 (slightly hazardous to water). Not an ozone-depleting substance; global warming potential not applicable.

## 13 SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

- Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste under 40 CFR 261 and must consult federal, state and local hazardous waste regulations to ensure complete and accurate classification. Should not be released into the environment.
- Dispose of surplus and non-recyclable material via a licensed hazardous-waste contractor. Do not discharge to sewers, drains or watercourses.
- Small laboratory quantities may be diluted by adding the solution to a large excess of cold water and neutralised with dilute acid (for example dilute hydrochloric or sulfuric acid) under cooling and agitation by trained personnel before disposal in accordance with the receiving authority's permit; neutralisation is strongly exothermic — never carry it out in a closed container.
- Empty containers retain product residue and remain corrosive. Do not cut, weld, braze, drill, grind or expose to heat.
- Triple-rinse containers with water, collecting the rinsate for neutralisation and permitted disposal, before offering for recycling or reconditioning; otherwise dispose of the container as unused product. Deface or remove the label from a properly cleaned container.
- Dispose of the container in accordance with local regulations. RCRA "empty" criteria are set out in 40 CFR 261.7.

### 13.2 Waste codes

RCRA (40 CFR 261): discarded unused product exhibits the corrosivity characteristic (aqueous solutions of pH ≥ 12.5, 40 CFR 261.22) — EPA hazardous waste number D002. Not a P- or U-listed commercial chemical product. European waste catalogue: EWC code 06 02 04* (sodium and potassium hydroxide) from the manufacture, formulation, supply and use of bases. Final code allocation is the responsibility of the waste producer.

## 14 SECTION 14: TRANSPORT INFORMATION

**This product is a regulated dangerous good in all modes of transport.**

### 14.1 Common transport classification (all modes)

| | |
|---|---|
| **UN number / UN ID number** | UN 1824 |
| **UN proper shipping name** | Sodium hydroxide solution |
| **Transport hazard class** | Class 8 — Corrosive substances |
| **Subsidiary hazard** | None |
| **Packing group** | II |
| **Label(s) required** | Class 8 "Corrosive" (white upper half / black lower half, liquids dripping on hand and metal) |
| **Environmental hazards** | Not classified as a marine pollutant under the IMDG Code and not an environmentally hazardous substance under ADR/RID. |
| **Special precautions for user** | Transport upright, secured against movement, away from foodstuffs. Segregate from acids. Keep away from aluminium, zinc and galvanised equipment. Vehicles and containers must be of, or lined with, alkali-resistant material. Protect from freezing — the 50 % solution crystallises at about 12 °C. |
| **Transport in bulk (MARPOL Annex II / IBC Code)** | Not applicable to packaged goods. Bulk marine carriage of sodium hydroxide solution is subject to the IBC Code; consult the ship's Certificate of Fitness for bulk carriage. |

**Transport hazard label(s) required on the package:**




Class 8 — Corrosive

*Minimum 100 mm × 100 mm on each side, set on a point, with a solid inner line 5 mm inside the edge (49 CFR 172.407). Reduced-size labels are permitted only where the package is too small to bear a full-size label. Where a subsidiary hazard label is required, it is displayed next to the primary label.*

## 14.2 US DOT — 49 CFR (road, rail and domestic transport)

| | |
|---|---|
| **Hazardous materials table entry** | Sodium hydroxide solution — 8, UN1824, PG II |
| **Label codes** | 8 |
| **Special provisions (49 CFR 172.102)** | B2, IB2, T7, TP2 |
| **Packaging — exceptions** | 49 CFR 173.154 |
| **Packaging — non-bulk** | 49 CFR 173.202 |
| **Packaging — bulk** | 49 CFR 173.242 |
| **Quantity limitation — passenger aircraft/rail** | 1 L |
| **Quantity limitation — cargo aircraft only** | 30 L |
| **Vessel stowage** | Location A |
| **Limited quantity** | Authorised under 49 CFR 173.154(b): inner packagings not exceeding 1.0 L, package gross mass not exceeding 30 kg. Limited quantity marking required in place of labels. |
| **Reportable quantity (RQ)** | 1,000 lb (454 kg) of sodium hydroxide — approximately 2,000 lb (910 kg) of 50 % product. Where a single package contains an RQ or more, the letters "RQ" must appear on the shipping paper and package marking. |
| **ERG 2024 guide number** | 154 — Substances, toxic and/or corrosive (non-combustible) |
| **Emergency response telephone** | Required on the shipping paper under 49 CFR 172.604 — see Section 1.4 |
| **Placarding** | CORROSIVE placard required for bulk packagings and for non-bulk shipments where the aggregate gross weight of Table 2 materials is 454 kg (1,001 lb) or more |

## 14.3 IMDG Code (sea)

| | |
|---|---|
| **UN number / class / PG** | UN 1824, Class 8, PG II |
| **Proper shipping name** | SODIUM HYDROXIDE SOLUTION |
| **EmS (emergency schedules)** | F-A (fire) and S-B (spillage) |
| **Segregation group** | Group 18 — Alkalis |
| **Marine pollutant** | No |
| **Limited quantity** | 1 L |
| **Excepted quantity** | E2 |
| **Stowage and segregation** | Stowage category A. Segregate from acids. Refer to the IMDG Code edition in force for the stowage category and segregation table. |

## 14.4 IATA DGR / ICAO Technical Instructions (air)

| | |
|---|---|
| **UN number / class / PG** | UN 1824, Class 8, PG II |
| **Proper shipping name** | Sodium hydroxide solution |
| **Passenger and cargo aircraft** | Packing Instruction 851 — maximum net quantity 1 L per package |
| **Cargo aircraft only** | Packing Instruction 855 — maximum net quantity 30 L per package |
| **Limited quantity (passenger aircraft)** | Packing Instruction Y840 — maximum net quantity 0.5 L per package |

| | |
|---|---|
| **Excepted quantity code** | E2 |
| **ERG code (ICAO)** | 8L |
| **Note** | Packing instruction numbers change between editions of the IATA Dangerous Goods Regulations. Verify against the edition in force on the date of shipment before completing the Shipper's Declaration. |

### 14.5 ADR / RID / ADN (European road, rail and inland waterway)

| | |
|---|---|
| **UN number / class / PG** | UN 1824, Class 8, PG II |
| **Classification code** | C5 — corrosive substances, basic, inorganic, liquid |
| **Labels** | 8 |
| **Tunnel restriction code** | (E) |
| **Hazard identification number (Kemler)** | 80 |
| **Transport category / limited quantity** | Transport category 2; limited quantity 1 L |
| **Packing instructions** | P001, IBC02 |
| **Note** | Verify against the ADR/RID edition in force before shipment. |

### 14.6 Shipping documentation example

UN1824, Sodium hydroxide solution, 8, PG II — followed by the number and type of packages, total quantity, packaging authorisation, emergency response telephone number and, where applicable, the "RQ" designation and limited-quantity marking.

*The shipper is responsible for confirming that packaging is UN-performance tested and marked to the required standard, that all personnel involved are trained and certified under 49 CFR 172 Subpart H (and IATA/IMDG equivalents), and that the classification remains valid under the regulatory edition in force on the date of shipment.*

## 15 SECTION 15: REGULATORY INFORMATION

### 15.1 United States federal regulations

| Regulation | Status |
|---|---|
| TSCA (15 U.S.C. §2601 et seq.) | Sodium hydroxide, CAS 1310-73-2, and water are listed on the TSCA Chemical Substance Inventory with an "active" designation. No TSCA section 12(b) export notification requirement applies. Not subject to a section 5(a)(2) significant new use rule and not a TSCA 6(h) PBT substance. |
| OSHA Hazard Communication (29 CFR 1910.1200) | Classified as a hazardous chemical. This SDS is prepared to the HCS 2024 amendment (GHS Rev. 7), for which the compliance date for substances was 19 May 2026. |
| OSHA flammable liquids (29 CFR 1910.106) | Not applicable — non-flammable aqueous solution. |
| OSHA PSM (29 CFR 1910.119, App. A) | Not a listed highly hazardous chemical. |
| CERCLA section 103 (40 CFR 302.4) | Hazardous substance. Reportable quantity 1,000 lb (454 kg) of sodium hydroxide, equivalent to approximately 2,000 lb (910 kg) of the 50 % product. Releases at or above the RQ in any 24-hour period must be reported immediately to the National Response Center, 1-800-424-8802. |
| EPCRA section 302 (40 CFR 355, App. A) | Not an extremely hazardous substance; section 302 emergency planning notification is not triggered by this product. |
| EPCRA sections 311 / 312 (40 CFR 370) | Reportable. Applicable hazard classes: skin corrosion (Category 1A), serious eye damage (Category 1), corrosive to metals (Category 1) and specific target organ toxicity — single exposure (Category 3, respiratory tract irritation). Reporting threshold 10,000 lb on site at any one time. |
| EPCRA section 313 (TRI, 40 CFR 372) | Not listed. No Toxics Release Inventory reporting requirement. |
| Clean Air Act section 112 / 112(r) | Not a listed hazardous air pollutant and not a regulated substance under 40 CFR 68.130. |
| Clean Water Act section 311 (40 CFR 116/117) | Designated hazardous substance; reportable quantity 1,000 lb. Not a section 307 priority pollutant or toxic pollutant. |
| RCRA (40 CFR 261) | Discarded unused product exhibits the corrosivity characteristic (pH ≥ 12.5): EPA hazardous waste number D002. Not P- or U-listed. |

| Regulation | Status |
|---|---|
| DEA / Chemical Diversion and Trafficking Act (21 CFR 1310) | Not listed as a List I or List II regulated chemical. |
| FDA / USDA | Not supplied as a food-grade, USP, FCC or NF material. Not for use in food, drug or cosmetic applications. |
| US Department of Homeland Security (6 CFR 27, App. A) | Not a chemical of interest. |

### 15.2 United States state regulations

| State list | Status |
|---|---|
| California Proposition 65 | Sodium hydroxide is not listed under the Safe Drinking Water and Toxic Enforcement Act of 1986. No Proposition 65 warning is required for this product. |
| California — other | Cal/OSHA PEL ceiling 2 mg/m³. |
| Massachusetts Right-to-Know | Listed (Substance List, 105 CMR 670). |
| New Jersey Right-to-Know | Listed (Hazardous Substance List; substance list). Special Health Hazard Substance — corrosive. |
| Pennsylvania Right-to-Know | Listed (Hazardous Substance List). |
| Rhode Island, Minnesota | Listed on the respective state hazardous substance / right-to-know lists. Not listed: Illinois. |

### 15.3 International regulations

| Jurisdiction | Status |
|---|---|
| Canada | Classified under the Hazardous Products Regulations (SOR/2015-17) consistently with Section 2. Listed on the Domestic Substances List (DSL). Not subject to NPRI reporting. |
| European Union — CLP | Harmonised classification, Annex VI to Regulation (EC) No 1272/2008, Index No. 011-002-00-6: Skin Corr. 1A, H314; Met. Corr. 1, H290, with the specific concentration limits given in Section 3. |
| European Union — REACH | Registered substance. Not on the Candidate List of substances of very high concern and not subject to authorisation (Annex XIV). Annex XVII restriction entry 75 (tattoo inks and permanent make-up) applies to the use of the substance in those products only. Supplier REACH registration number to be inserted before EU/EEA placement. |
| Seveso III (Directive 2012/18/EU) | Not named individually in Annex I and not captured by a generic hazard category for the classification given in Section 2. |
| Rotterdam / Stockholm / Montreal Conventions | Not listed under the PIC procedure, not a persistent organic pollutant and not an ozone-depleting substance. |
| Basel Convention | Annex I — Y35 (waste basic solutions or bases in solid form) when exported as waste. |
| Chemical Weapons Convention | Not a scheduled chemical. |
| Chemical inventories | Listed on TSCA (USA), DSL (Canada), EC Inventory / REACH (EU), AIIC (Australia), IECSC (China), ENCS and ISHL (Japan), KECI (Korea), PICCS (Philippines), NZIoC (New Zealand), TCSI (Taiwan) and the Indian Chemical Inventory. |
| Mexico | OEL (NOM-010-STPS): ceiling 2 mg/m³. |
| Germany | Water Hazard Class WGK 1 (slightly hazardous to water). |

### 15.4 Chemical safety assessment

A chemical safety assessment has been carried out for sodium hydroxide under REACH by the registrant consortium. No exposure scenarios are annexed to this SDS; users placing the substance on the EU/EEA market should obtain the extended SDS from the registrant.

## 16 SECTION 16: OTHER INFORMATION

### 16.1 Hazard rating systems

| System | Rating | Notes |
|---|---|---|
| NFPA 704 | Health 3 · Flammability 0 · Instability 1 · Special: none | Corrosive; supplier rating (takes precedence) |
| HMIS® III | Health 3 · Flammability 0 · Physical hazard 1 · PPE: X | PPE code to be assigned by the employer based on the task |




*Rating scale 0 = minimal, 4 = severe. These ratings are supplementary and are not a substitute for the GHS classification in Section 2.*

## 16.2 Full text of hazard statements referred to in this SDS

- H290 — May be corrosive to metals.
- H314 — Causes severe skin burns and eye damage.
- H315 — Causes skin irritation.
- H318 — Causes serious eye damage.
- H319 — Causes serious eye irritation.
- H335 — May cause respiratory irritation.

## 16.3 Abbreviations and acronyms

| Abbreviation | Meaning |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ADR / RID / ADN | European agreements concerning the international carriage of dangerous goods by road / rail / inland waterway |
| CAS | Chemical Abstracts Service |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging |
| DNEL / PNEC | Derived no-effect level / predicted no-effect concentration |
| EmS | Emergency schedule (IMDG Code) |
| EPCRA | Emergency Planning and Community Right-to-Know Act |
| ERG | Emergency Response Guidebook (PHMSA / Transport Canada / SCT) |
| GHS | Globally Harmonized System of Classification and Labelling of Chemicals |
| HCS | Hazard Communication Standard, 29 CFR 1910.1200 |
| HMIS | Hazardous Materials Identification System |
| IARC | International Agency for Research on Cancer |
| IATA DGR | International Air Transport Association Dangerous Goods Regulations |
| IDLH | Immediately dangerous to life or health |
| IMDG | International Maritime Dangerous Goods Code |
| $LC_{50}$ / $LD_{50}$ / $EC_{50}$ | Concentration / dose / effective concentration lethal or effective to 50 % of a test population |
| NFPA | National Fire Protection Association |
| NIOSH | National Institute for Occupational Safety and Health |
| NTP | National Toxicology Program |
| OSHA | Occupational Safety and Health Administration |
| PBT / vPvB | Persistent, bioaccumulative and toxic / very persistent and very bioaccumulative |
| PEL / REL / TLV | Permissible exposure limit / recommended exposure limit / threshold limit value |
| PG | Packing group |
| RCRA | Resource Conservation and Recovery Act |
| RQ / TPQ / TQ | Reportable quantity / threshold planning quantity / threshold quantity |
| SCBA | Self-contained breathing apparatus |
| STOT SE / RE | Specific target organ toxicity — single exposure / repeated exposure |
| TSCA | Toxic Substances Control Act |

| Abbreviation | Meaning |
|---|---|
| TWA / STEL | Time-weighted average / short-term exposure limit |
| WGK | Wassergefährdungsklasse (German water hazard class) |

## 16.4 Key references

- 29 CFR 1910.1200, OSHA Hazard Communication Standard, as amended by the final rule of 19 July 2024 (89 FR 44144), aligning with GHS Revision 7.
- 49 CFR Parts 171–180, US DOT Hazardous Materials Regulations; Hazardous Materials Table, 49 CFR 172.101.
- 2024 Emergency Response Guidebook, Guide 154.
- IMDG Code and IATA Dangerous Goods Regulations, editions in force.
- 40 CFR 302.4, 40 CFR 355 Appendix A, 40 CFR 370, 40 CFR 372, 40 CFR 68.130 and 40 CFR 261.
- Regulation (EC) No 1272/2008 Annex VI, Index No. 011-002-00-6; Regulation (EC) No 1907/2006 Annex II.
- NIOSH Pocket Guide to Chemical Hazards, sodium hydroxide; ACGIH TLVs and BEIs, current edition.
- Manufacturer safety data sheet for sodium hydroxide solution (US OSHA HCS 2024 format, revision 7, 18 December 2025) — source of the toxicological and ecotoxicological test values reproduced here.
- ECHA registered substance dossier and PubChem CID 14798, sodium hydroxide.

## 16.5 Revision information

| | |
|---|---|
| **Version** | 1.0 |
| **Date of issue** | 01 November 2026 |
| **Reason for revision** | First issue under Highpuris LLC. Content prepared in the 16-section format of 29 CFR 1910.1200, Appendix D, with full US DOT 49 CFR transport detail, IMDG / IATA / ADR classification, and the complete Highpuris catalogue SKU list for sodium hydroxide solution (47–50 %). |
| **Sections revised** | All — first issue |
| **Prepared by** | Regulatory Affairs, Highpuris LLC |

## 16.6 Disclaimer

The information in this Safety Data Sheet is provided in good faith and is believed to be accurate as at the date of issue. It has been compiled from data on sodium hydroxide solution (47–50 %) published by regulatory authorities, manufacturers and recognised technical sources, and relates only to the specific material identified in Section 1. It does not constitute a warranty, express or implied, of merchantability, fitness for a particular purpose or of any other kind, and Highpuris LLC accepts no liability for loss or damage arising from the handling or use of the product. The material may present hazards in combination with other substances or in processes not described here. It is the responsibility of the user to determine the suitability of this information for their own particular purpose, to comply with all applicable laws and regulations, and to ensure that the material is handled only by adequately trained personnel. Transport classifications, exposure limits and regulatory listings change. This document must be reviewed against the regulatory editions in force at the date of each shipment.

— END OF SAFETY DATA SHEET —


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