

TECHNICAL DATA SHEET

Sodium Hydroxide 5% ACS Grade

ACS

CAS NUMBER  
1310-73-2

ALLIANCE CODE  
sodium-hydroxide-5-accs-grade

GENERATED  
2026-07-30

1. IDENTITY & COMPOSITION

PRODUCT NAME  
Sodium Hydroxide 5% ACS Grade

ALLIANCE CODE  
sodium-hydroxide-5-accs-grade

GRADE  
ACS

CONCENTRATION  
—

CAS NUMBER  
1310-73-2 [PubChem](#)

FORMULA  
HNaO [PubChem](#)

MOLECULAR WEIGHT  
39.997 [PubChem](#)

PRODUCT TYPE  
solution

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

| GRADE                     | CONCENTRATION | TYPICAL ASSAY | SKU                                                 |
|---------------------------|---------------|---------------|-----------------------------------------------------|
| <div>THIS GRADE</div> ACS | —             | —             | current                                             |
| ACS Grade                 | 50%           | —             | sodium-hydroxide-50-solution-accs-grade             |
| Membrane Grade            | 50%           | —             | sodium-hydroxide-50-membrane-grade-caustic-soda-lye |
| —                         | 25%           | —             | sodium-hydroxide-25                                 |
| ACS Grade                 | 25%           | —             | sodium-hydroxide-25-accs-grade                      |

| GRADE     | CONCENTRATION | TYPICAL ASSAY | SKU                                 |
|-----------|---------------|---------------|-------------------------------------|
| ACS       | —             | —             | sodium-hydroxide-10-acs-grade       |
| ACS       | —             | —             | sodium-hydroxide-15-acs-grade       |
| ACS       | —             | —             | sodium-hydroxide-20-acs-grade       |
| ACS       | —             | —             | sodium-hydroxide-30-acs-grade       |
| Technical | —             | —             | sodium-hydroxide-10-technical-grade |
| Technical | —             | —             | sodium-hydroxide-15-technical-grade |
| Technical | —             | —             | sodium-hydroxide-20-technical-grade |
| Technical | —             | —             | sodium-hydroxide-30-technical-grade |

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

## MATERIALS OF CONSTRUCTION

| MATERIAL                  | RATING    | MAX T (°C) | NOTES                     | SOURCE                                             |
|---------------------------|-----------|------------|---------------------------|----------------------------------------------------|
| Buna-N (NBR)<br>Elastomer | Fair      | 40         | Limited service life      | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| EPDM<br>Elastomer         | Excellent | 90         | Preferred elastomer       | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| Viton (FKM)<br>Elastomer  | Poor      | —          | Not recommended above 25% | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PTFE<br>Fluoropolymer     | Excellent | 200        | Lining and gaskets        | <a href="#">Cole-Parmer Chemical Compatibility</a> |

| MATERIAL                                   | RATING          | MAX T (°C) | NOTES                                                          | SOURCE                                             |
|--------------------------------------------|-----------------|------------|----------------------------------------------------------------|----------------------------------------------------|
| <b>Borosilicate Glass</b><br>Glass Ceramic | Fair            | 25         | Attacked above 30 % or elevated temp; avoid long-term service. | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>304 stainless steel</b><br>Metal        | Good            | 80         | Acceptable for dilute caustic                                  | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>316 stainless steel</b><br>Metal        | Excellent       | 95         | Standard caustic service                                       | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>316L Stainless Steel</b><br>Metal       | Excellent       | 80         | Preferred metal for caustic service.                           | <a href="#">NACE TM0177</a>                        |
| <b>Aluminium</b><br>Metal                  | Not recommended | —          | Rapid attack; generates hydrogen                               | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>Carbon steel</b><br>Metal               | Good            | 50         | Acceptable to 50 °C; caustic embrittlement above               | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>Carbon Steel</b><br>Metal               | Good            | 60         | Acceptable below 70 °C; caustic embrittlement risk above.      | <a href="#">NACE Caustic Service Limits</a>        |
| <b>Nickel</b><br>Metal                     | Excellent       | 100        | Preferred for high-temperature caustic                         | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>Zinc / galvanized steel</b><br>Metal    | Not recommended | —          | Rapid corrosion                                                | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| <b>HDPE</b><br>Thermoplastic               | Excellent       | 60         | Standard drum / IBC material                                   | <a href="#">Cole-Parmer Chemical Compatibility</a> |

| MATERIAL                       | RATING    | MAX T (°C) | NOTES                              | SOURCE                                             |
|--------------------------------|-----------|------------|------------------------------------|----------------------------------------------------|
| Polypropylene<br>Thermoplastic | Excellent | 80         | Excellent caustic service to 50 %. | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PP<br>Thermoplastic            | Excellent | 80         | Preferred for elevated temperature | <a href="#">Cole-Parmer Chemical Compatibility</a> |
| PVC<br>Thermoplastic           | Good      | 40         | Acceptable for ambient service     | <a href="#">Cole-Parmer Chemical Compatibility</a> |

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

## REGULATORY & TRANSPORT

### DOT / 49 CFR

UN NUMBER

UN1824 **Vendor Label**

HAZARD CLASS

8 **Adjudicated**

PACKING GROUP

II **Adjudicated**

PROPER SHIPPING NAME

Sodium hydroxide solution **Adjudicated**

### GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger **Adjudicated**

H-CODES (HAZARD STATEMENTS)

H290, H314 **ECHA CLP Annex VI**

P-CODES (PRECAUTIONARY STATEMENTS)

P234, P260, P264, P280, P301+P330+P331,  
P303+P361+P353, P304+P340, P305+P351+P338,  
P310, P321, P363, P405, P501 **ECHA CLP Annex VI**

### OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

2 mg/m<sup>3</sup> TWA **OSHA 29 CFR 1910.1000**

ACGIH TLV

— **unknown**

NIOSH REL

2 mg/m<sup>3</sup> ceiling **NIOSH Pocket Guide**

NIOSH IDLH

10 mg/m<sup>3</sup> **NIOSH Pocket Guide**

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

## Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Sodium Hydroxide 5% ACS Grade. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

### CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

#### SIGMA-ALDRICH

| SKU                   | GRADE       | CONC. | MATCH | NOTES                            |
|-----------------------|-------------|-------|-------|----------------------------------|
| <a href="#">S5881</a> | ACS Reagent | ≥97%  | Exact | Reagent grade, anhydrous pellets |

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

#### APPLICATION GUIDANCE

Sodium Hydroxide 5% ACS Grade (ACS) is a strong base used for pH control, saponification, and chemical manufacturing.

- pH adjustment and neutralization
- Saponification and detergent manufacturing
- Pulp and paper processing
- Water treatment and softening
- Chemical synthesis (caustic-driven reactions)

Highly exothermic when diluted — control mixing rate and temperature. Hygroscopic; protect from atmospheric moisture and CO<sub>2</sub>.

## STORAGE & HANDLING

### RECOMMENDED STORAGE

Cool, dry, well-ventilated area in compatible containers (HDPE, lined steel — not aluminium).  
Tightly sealed; protect from atmospheric...

### INCOMPATIBILITIES

Acids (violent neutralization), aluminium, zinc, tin (generates hydrogen gas), halogens, organic nitro compounds.

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

### HANDLING PRECAUTIONS

Use full PPE including chemical splash goggles and alkali-resistant gloves. Add base to water slowly with stirring. Highly exothermic dilution.

### SHELF LIFE

24 months from date of manufacture in sealed, original packaging

## PACKAGING & LOGISTICS

### SHIPPING DESCRIPTION (US DOT)

UN1824, Sodium hydroxide solution, 8, PG II

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

|                  |                      |                        |
|------------------|----------------------|------------------------|
| NMFC CLASS<br>60 | PLACARD<br>Corrosive | PACKING GROUP<br>PG II |
|------------------|----------------------|------------------------|

## REVISION HISTORY

Last reviewed 2026-06-18 by Andre Taki, DOT Hazmat Specialist.

| VERSION | DATE       | CHANGE                                                                                                                                                                                                                                                                                                    | TRIGGER          |
|---------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1.2     | 2026-07-22 | Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. <ul style="list-style-type: none"><li>dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication)</li><li>dotProperShippingName · canonical change (coa.data_provenance / adjudication)</li></ul> | canonical_change |

| VERSION | DATE       | CHANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TRIGGER          |
|---------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 1.1     | 2026-06-18 | Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). <ul style="list-style-type: none"> <li>countryOfOrigin · canonical adjudication / reground (coa.data_provenance)</li> <li>ghsClassification · canonical adjudication / reground (coa.data_provenance)</li> <li>hsCode · canonical adjudication / reground (coa.data_provenance)</li> </ul> | canonical_change |
| 1.0     | 2026-05-20 | Initial URL-first TDS published from canonical chemistry registry.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | initial          |

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.

ALLIANCE CHEMICAL

## Order Sodium Hydroxide 5% ACS Grade

Bulk & packaged sizes · COA/SDS ships with every order