TECHNICAL DATA SHEET

Sodium Hydroxide 25%

Revised: 04/27/2026

PRODUCT IDENTIFICATION

Product Name: Sodium Hydroxide 25%
CAS Number: 1310-73-2
Molecular Formula: HNaO
Molecular Weight: 39.997 g/mol
Grade: Technical
Purity / Concentration: 25%
Synonyms: Caustic Soda, Lye

PRODUCT OVERVIEW

Alliance Chemical provides high-quality 25% Sodium Hydroxide, also known as caustic soda or lye, in a reliable technical grade. This clear, pale liquid features a precise assay of 25.3% and extremely low impurity levels, including iron at 0.2 ppm, making it an essential reactant for industrial neutralization and chemical synthesis.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and manufacturing utility rather than food or pharmaceutical use, providing a cost-effective solution for large-scale applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	25.3	24.5	26	Titration with HCl
Specific Gravity (20°C)	g/mL	1.276	1.27	1.28	Hydrometer
Iron (Fe)	ppm	0.2	—	5	ICP-OES
Chloride (Cl^-)	ppm	1	—	30	Ion Chromatography
Sulfate (SO_4^{2-})	ppm	2	—	50	Ion Chromatography
Carbonate Na2Co3	%	0.15	—	0.5	Titration

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, pale liquid	**Odor**	Odorless
Form	Liquid	**Boiling Point**	1390°C (2534°F)
Melting / Freezing Point	318°C (604°F)	**Specific Gravity**	1.275
Solubility	High water solubility, miscible with polar solvents	**Molecular Formula**	HNaO
Molecular Weight	39.997 g/mol	**Viscosity (25°C)**	1.0 cP
Refractive Index (20°C)	1.333	**Density (25°C)**	1.2 g/mL

APPLICATIONS

1. **Water Treatment** — Used effectively to neutralize acidic water streams and maintain optimal pH levels in municipal and industrial treatment processes.
2. **Chemical Manufacturing** — Serves as a fundamental reactant in the production of diverse chemical compounds, including specialized surfactants.
3. **Soap and Detergent** — Utilized extensively in the saponification process to convert fats and oils into high-quality soaps and cleaning agents.
4. **Analytical Chemistry** — Acts as a primary reagent for laboratory testing and various analytical chemistry applications requiring consistent alkalinity.

STORAGE & HANDLING

Proper storage is critical because Sodium Hydroxide is highly corrosive and causes severe skin burns and eye damage upon contact. It must be kept in compatible, sealed containers to prevent exposure to air and moisture, which could compromise the product's concentration and safety profile.

- Store in a cool, dry place away from incompatible materials such as acids.
- Use containers made of HDPE or glass to prevent reactions.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.
- Avoid exposure to moisture to maintain product integrity.

AVAILABLE PACKAGING

- 1 Quart
- 1 Gallon
- 5 Gallon
- 15 Gallon
- 55 Gallon
- 275 Gallon
- 330 Gallon

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger

Hazard Statements:

- H314: Causes severe skin burns and eye damage [Danger Skin corrosion/irritation]

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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