

PRODUCT IDENTIFICATION

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

PRODUCT OVERVIEW

Sodium Hydroxide (NaOH) is a highly soluble ionic compound known for its strong alkaline properties. This 25% solution is commonly used in various industrial applications, including chemical synthesis and pH adjustment in water treatment processes.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	25	24.5	25.5	Titration
Calcium Ca	ppm	20	0	50	ICP-MS
Iron	ppm	1	0	2	ICP
Magnesium Mg	ppm	10	0	20	ICP-MS
Nickel Ni	ppm	3	0	10	ICP-MS
Potassium K	%	0.012	0	0.02	ICP-MS
Chloride (Cl ⁻)	ppm	9	0	50	Ion chromatography
Phosphate Po4	ppm	5	0	10	ICP
Sulfate (SO ₄ ²⁻)	ppm	8	0	20	Ion chromatography
Carbonate	%	0.03	0	0.1	Titration
Mercury Hg	ppm	0.3	0	1	ICP-MS
Nitrogen	ppm	5	0	10	Kjeldahl / Chemiluminescence

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, colorless viscous liquid solution	Odor	Odorless
Form	Liquid	Boiling Point	Not characterized for the 25% solution
Melting / Freezing Point	Not characterized for the 25% solution	Specific Gravity	1.27
Solubility	Completely soluble in water, alcohol mixtures	Molecular Formula	HNaO
Molecular Weight	39.997 g/mol	Viscosity (25°C)	1.0 cP
Refractive Index (20°C)	1.335	Density (25°C)	1.2 g/mL
Partition Coefficient (log-P)	-1.9 (approximation for NaOH solution, highly ionic)	Decomposition Temp.	> 300°C (decomposes upon strong heating)

APPLICATIONS

1. **Water Treatment** — Used to neutralize acidic water and maintain optimal pH levels in various water treatment processes.
2. **Chemical Manufacturing** — Serves as a strong base in the production of various chemicals, including soaps and detergents.
3. **Industrial Cleaning** — Utilized in the formulation of industrial cleaning products for its ability to dissolve organic materials.
4. **Analytical Chemistry** — Commonly used as a reagent in titration and other analytical procedures.
5. **Food Industry** — Used in food processing for pH control and as a processing aid.

STORAGE & HANDLING

- Store in a cool, dry place away from incompatible materials such as acids and organic compounds.
- Use containers made of HDPE or glass to prevent reactions with metals.
- Ensure proper ventilation in storage areas to avoid accumulation of vapors.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles when handling.
- Avoid exposure to moisture and direct sunlight 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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