

PRODUCT IDENTIFICATION



Product Name: Sodium Hydroxide 50% Solution ACS Grade

CAS Number: 1310-73-2

Molecular Formula: HNaO

Molecular Weight: 39.997 g/mol

Grade: ACS Grade

Purity / Concentration: 50%

Synonyms: Caustic Soda, Lye

PRODUCT OVERVIEW

Sodium Hydroxide 50% Solution is a highly concentrated alkaline solution, commonly used in various industrial applications. It is a strong base that readily dissociates in water to produce hydroxide ions, making it effective for pH adjustment and other chemical processes.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	50	49.5	50.5	Titration
Calcium Ca	ppm	20	0	50	ICP-MS
Iron	ppm	0.9	0	3	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	17	0	100.0	Ion chromatography
Phosphate Po4	ppm	5	0	10	ICP
Sulfate (SO ₄ ²⁻)	ppm	16	0	40	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 liquid	Odor	Odorless
Form	Liquid	Boiling Point	Not characterized for the 50% solution
Melting / Freezing Point	Not characterized for the 50% solution	Specific Gravity	1.53
Solubility	Highly soluble in water and alcohol	Molecular Formula	HNaO
Molecular Weight	39.997 g/mol	Viscosity (25°C)	1.0
Refractive Index (20°C)	1.390	Density (25°C)	1.52 g/mL
Decomposition Temp.	Not applicable under normal conditions		

APPLICATIONS

1. **Water Treatment** — Used to raise the pH of acidic water in treatment processes.
2. **Industrial** — Serves as a key reactant in the production of various chemicals.
3. **Cosmetics** — Utilized in the saponification process to produce soap.
4. **Analytical Chemistry** — Commonly used in titrations and other analytical procedures.
5. **Industrial Cleaning** — Effective for removing grease and organic materials.

STORAGE & HANDLING

- Store in a cool, dry place away from incompatible materials.
- Use HDPE or glass containers for storage.
- Avoid contact with acids and organic materials.
- Ensure proper ventilation when handling to avoid inhalation of vapors.
- Wear appropriate personal protective equipment (PPE) including gloves and goggles.

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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