

PRODUCT IDENTIFICATION



Product Name: Sodium Hydroxide 50% Membrane Grade (Caustic Soda, Lye)

CAS Number: 1310-73-2

Molecular Formula: HNaO

Molecular Weight: 39.997 g/mol

Grade: Technical Grade

Purity / Concentration: 50%

Synonyms: Caustic Soda, Lye

PRODUCT OVERVIEW

Sodium Hydroxide 50% Membrane Grade is a high-purity caustic soda solution designed for versatile industrial applications. With extremely low impurity levels, such as 1 ppm iron and non-detected carbonate, this technical grade liquid provides consistent performance for pH adjustment and chemical synthesis.

Grade Significance: Technical grade indicates that the product is manufactured for industrial use with a focus on cost-effective, reliable performance while maintaining tight control over critical impurities.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	50	49.5	50.5	Titration
Iron	ppm	1	0	3	ICP
Chloride (Cl ⁻)	ppm	18	0	100.0	Ion chromatography
Sulfate (SO ₄ ²⁻)	ppm	16	0	40	Ion chromatography
Carbonate	%	ND	0	0.1	Titration

Values based on 2 batches tested. ND = Not Detected.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear, caustic liquid	Odor	Odorless
Form	Liquid solution	Boiling Point	Not characterized for the 50% solution
Melting / Freezing Point	Not characterized for the 50% solution	Specific Gravity	1.53
Solubility	Complete water solubility, moderate organic solvent	Molecular Formula	HNaO
Molecular Weight	39.997 g/mol	Vapor Pressure (20°C)	Negligible
Viscosity (25°C)	1.0 cP	Refractive Index (20°C)	1.333
Density (25°C)	1.20 g/mL		

APPLICATIONS

1. **Water Treatment** — Used as an effective chemical agent to precisely adjust the pH levels of water in municipal and industrial treatment processes.
2. **Chemical Manufacturing** — Acts as a powerful base in various organic and inorganic chemical syntheses and neutralization reactions.
3. **Personal Care** — Essential in the saponification process, enabling the conversion of fats and oils into high-quality soap products.
4. **Food Processing** — Utilized under strict protocols for pH control and as a heavy-duty cleaning agent for food-grade processing equipment.

STORAGE & HANDLING

Proper storage is critical because this 50% solution is highly corrosive and can cause severe skin burns or eye damage upon contact. It must be stored in compatible, corrosion-resistant containers to prevent hazardous leaks or structural damage to surrounding metal surfaces.

- Store in a cool, dry place away from incompatible materials.
- Use corrosion-resistant containers (e.g., HDPE, stainless steel).
- Avoid contact with acids and organic materials.
- Ensure proper personal protective equipment (PPE) is worn during handling.
- Provide adequate ventilation in storage areas.

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:

- H290: May be corrosive to metals
- H314: Causes severe skin burns and eye damage

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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