TECHNICAL DATA SHEET

Sodium Hydroxide Flakes ACS Grade

Revised: 08/11/2026

PRODUCT IDENTIFICATION

Product Name: Sodium Hydroxide Flakes ACS Grade
CAS Number: 1310-73-2
Molecular Formula: HNaO
Molecular Weight: 39.997 g/mol
Grade: ACS Grade
Purity / Concentration: Not Available
Synonyms: Caustic Soda, Sodium Hydrate

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Sodium Hydroxide Flakes, provided in ACS Grade to ensure rigorous quality standards for sensitive laboratory and industrial processes. With a high assay of 97% and strictly controlled impurity levels—including iron at just 0.9 ppm—these white hygroscopic flakes are ideal for precise pH adjustment and chemical synthesis.

Grade Significance: ACS Grade signifies that this product meets the high-purity standards set by the American Chemical Society, ensuring the reliability and reproducibility required for analytical and laboratory applications.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	97	96.5	97.5	Titration
Calcium Ca	ppm	15	0	50	ICP-MS
Iron	ppm	0.9	0	3	ICP
Magnesium Mg	ppm	10	0	20	ICP-MS
Nickel Ni	ppm	5	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	White hygroscopic flakes	**Odor**	Odorless
Form	Solid	**Boiling Point**	greater than 266 °F at 760 mmHg (USCG, 1999)
Melting / Freezing Point	604 °F (USCG, 1999)	**Flash Point**	Not applicable
Specific Gravity	2.13	**Solubility**	Highly soluble in water, moderate solubility in alcohols, forms alkaline solutions
Molecular Formula	HNaO	**Molecular Weight**	39.997 g/mol
Density (25°C)	2.13 g/mL		

APPLICATIONS

1. **Water Treatment** — Used to neutralize acidic water sources and maintain optimal pH levels throughout municipal and industrial treatment processes.
2. **Chemical Manufacturing** — Acts as a powerful base in critical chemical reactions, specifically facilitating efficient saponification and esterification pathways.
3. **Personal Care and Soap** — Serves as an essential reagent in the traditional saponification process required to manufacture high-quality soaps and detergents.
4. **Textile Industry** — Utilized during the dyeing and finishing stages to improve fiber preparation and enhance overall color uptake and vibrancy.

STORAGE & HANDLING

Sodium Hydroxide is highly hygroscopic, meaning it rapidly absorbs moisture from the air, which can cause the flakes to clump and lose their chemical integrity. Proper airtight storage is also critical to mitigate the risk of H290 corrosive reactions with metal containers and to prevent accidental skin or eye contact.

- Store in a cool, dry place away from moisture and incompatible materials.
- Use appropriate personal protective equipment (PPE) including gloves and goggles.
- Ensure containers are tightly sealed to prevent moisture absorption.
- Compatible with HDPE and glass containers; avoid aluminum and zinc materials.
- Provide adequate ventilation in storage areas to minimize exposure to dust.

AVAILABLE PACKAGING

- 2 lbs.
- 4 Lbs.
- 55 Lbs.

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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