

PRODUCT IDENTIFICATION



Product Name: Potassium Hydroxide Flakes ACS Grade

CAS Number: 1310-58-3

Molecular Formula: HKO

Molecular Weight: 56.106 g/mol

Grade: ACS Grade

Purity / Concentration: Not Available

Synonyms: KOH Flakes, Potash Lye

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Potassium Hydroxide Flakes in ACS Grade, featuring a precise 86.5% assay and exceptionally low impurity levels such as 3 ppm of Chloride. These crystalline, hygroscopic flakes serve as a powerful, reliable base for critical laboratory and industrial applications requiring stringent chemical specifications.

Grade Significance: ACS Grade signifies that this product meets the rigid purity standards established by the American Chemical Society, ensuring it is suitable for analytical and precise laboratory use. This grade provides the end user with the confidence that impurity levels are strictly controlled and verified.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (Titration)	%	90.3	85	100.0	Titration
Heavy Metals As Pb	ppm	3	—	10	ICP-MS (as Pb)
Iron	ppm	1.5	—	5	ICP
Nickel Ni	ppm	2	0	4	ICP-MS
Chloride (Cl ⁻)	ppm	0.0029	—	0.01	Ion chromatography
Phosphate	ppm	0.0006	—	0.0020	Per specification
Sulfate (SO ₄ ²⁻)	ppm	0.0015	—	0.0050	Ion chromatography
Carbonate	%	0.37	—	2	Titration
Nitrogen	ppm	6	—	20	Kjeldahl / Chemiluminescence

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	White, crystalline hygroscopic flakes	Odor	Odorless
Form	Solid	Boiling Point	greater than 266 °F at 760 mmHg (USCG, 1999)
Melting / Freezing Point	680 °F approximately (NTP, 1992)	Specific Gravity	2.044
Solubility	High water solubility, dissolves in alcohols	Molecular Formula	HKO
Molecular Weight	56.106 g/mol	Density (25°C)	0.85 g/mL

APPLICATIONS

1. **Water Treatment** — Used to effectively adjust pH levels in water systems to ensure compliance with strict environmental safety regulations.
2. **Biodiesel Production** — Acts as an essential strong base catalyst during the transesterification process to convert fats and oils into high-quality biodiesel.
3. **Personal Care and Soap** — Functions as a primary saponification agent in the manufacturing of liquid soaps and specialty cleansers.
4. **Energy Storage** — Utilized as a high-performance electrolyte in alkaline batteries to improve conductivity and extend operational longevity.
5. **Food Processing** — Applied in food manufacturing, such as cocoa and chocolate production, to carefully regulate acidity levels for flavor and texture.

STORAGE & HANDLING

Potassium Hydroxide is highly hygroscopic, meaning it rapidly absorbs moisture from the air, which can cause the flakes to clump and degrade in quality. Proper sealed storage is also critical to prevent dangerous chemical reactions and mitigate skin corrosion risks associated with its caustic nature.

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

AVAILABLE PACKAGING

- 2 lbs.
- 5 Lbs.
- 55 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H302: Harmful if swallowed [Warning Acute toxicity, oral]
- 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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