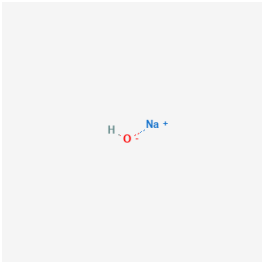
Technical Data Sheet

Sodium Hydroxide Flakes

Technical · 97%

Alliance Code	Revised	Revision
sodium-hydroxide-flakes	2026-10-07	1.4

CAS number 1310-73-2	UN number UN1823	Hazard class · packing group 8 · PG II
 Structure · PubChem	Grade Technical · 97%	Signal word **Danger**
Hazards Corrosive H290 H314		
Proper shipping name Sodium hydroxide, solid		

IDENTITY & COMPOSITION

PRODUCT NAME
Sodium Hydroxide Flakes

ALLIANCE CODE
sodium-hydroxide-flakes

GRADE
Technical

CONCENTRATION
97%

CAS NUMBER
1310-73-2 PubChem

FORMULA
NaOH PubChem

MOLECULAR WEIGHT
39.997 PubChem

PRODUCT TYPE
Pure substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Purity (dry basis), as NaOH	98% Min	—	ASTM E291	Interpreted

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Sodium chloride (NaCl)	100 Max ppm	—	ASTM E291	Interpreted
Heavy metals (as Pb)	≤ 0.001%	—	—	Interpreted
Iron (Fe)	15 ppm max	—	—	Interpreted
Nickel (Ni)	5.0 Max ppm	—	HACH 10220	Interpreted
Sodium carbonate (Na2CO3)	0.2 Max %	—	ASTM E291	Interpreted
Water (H2O)	1.0 % Max	—	Karl Fischer titration	Interpreted
Sodium sulfate (Na2SO4)	0.05 % Max	—	Turbidimetric (BaSO4)	Interpreted
Aluminum	40 ppm max	—	—	Interpreted
Calcium	45 ppm max	—	—	Interpreted
Copper	1.5 ppm max	—	—	Interpreted
Excess sodium hydroxide	98 % min	—	—	Interpreted
Magnesium	30 ppm max	—	—	Interpreted
Manganese	0.75 ppm max	—	—	Interpreted
Naclo3	40 ppm max	—	—	Interpreted
Retained 16mesh	25 % max	—	—	Interpreted
Retained 4mesh	95 % max	—	—	Interpreted
Silicon	350 ppm max	—	—	Interpreted
Strontium	15 ppm max	—	—	Interpreted

Values are reproduced from the current product reference. Source labels do not by themselves establish a supplier guarantee or a test result for your lot. Confirm applicable acceptance limits and request lot-specific documentation.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE Technical	97%	—	current
ACS Grade	97%	—	sodium-hydroxide-flakes-acs-grade

Typical assay for each grade is the average of its recent lots. Confirm a grade meets your specification before substituting it.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	White crystalline flakes	Adjudicated
Form	Solid	Published reference
Odor	Odorless	Adjudicated
pH	About 14 (5% solution)	Adjudicated
Specific Gravity	2.13 at 20 °C (water = 1)	Adjudicated
Density	1.5 at 68 °F (USCG, 1999) - Denser than water; will sink	Published reference
Boiling Point	1,388–1,390 °C (2,530–2,534 °F)	Adjudicated
Melting Point	318–323 °C (604–613 °F)	Adjudicated
Flash Point	Not applicable	Adjudicated
Vapor Pressure	Negligible at 20 °C (< 0.1 hPa)	Adjudicated
Solubility (water)	Very soluble in water, about 1,090–1,260 g/L at 20 °C (strongly exothermic); soluble in ethanol, methanol and glycerol	Adjudicated

Strong base — hygroscopic; values may drift in opened containers. See storage guidance.

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	CONDITIONS	SOURCE
Polypropylene / polyethylene (PP/PE) bag	Compatible	Solid caustic soda flakes/pearls (>=99% NaOH), 25 kg bags; no temperature stated	basekim.com

Compatibility is drawn from published manufacturer and supplier documentation for this product; each rating is sourced. Confirm against your specific duty cycle before equipment selection.

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER
UN1823 Adjudicated

HAZARD CLASS
8 Adjudicated

PACKING GROUP
II Adjudicated

PROPER SHIPPING NAME
Sodium hydroxide, solid Adjudicated

GHS / OSHA HCS 2024

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
H290, H314 Adjudicated

P-CODES (PRECAUTIONARY STATEMENTS)
P234, P260, P264, P280, P301+P330+P331, P303+P361+P353, P304+P340, P305+P351+P338, P310, P321, P363, P390, P405, P406, P501

Adjudicated

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
2 mg/m^3 TWA OSHA 29 CFR 1910.1000

ACGIH TLV
2 mg/m^3 Ceiling Adjudicated

NIOSH REL
2 mg/m^3 Ceiling Adjudicated

NIOSH IDLH
10 mg/m^3 Adjudicated

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

HEALTH & FIRE HAZARD

ACUTE TOXICOLOGY

LD$_{50}$ DERMAL (RABBIT)
1,350 mg/kg Adjudicated

Acute toxicology values from SDS Section 11 or NIOSH RTECS.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
S5881	ACS Reagent	≥97%	Unverified candidate	Reagent grade, anhydrous pellets

Cross-references are informational. Confirm against the manufacturer's current specification before substitution. Competitor trademarks are property of their respective owners.

APPLICATIONS

pH adjustment in water treatment; pulp and paper; textile scouring and dyeing; soap and detergent manufacturing; petroleum refining and oil drilling; aluminum processing; chemical synthesis

basekim.com

Organic synthesis, petroleum product refining, textile industry (viscose silk, fabric bleaching), paper and aniline industry, soap making, production of aluminum and sodium metal, soluble glass and alkaline accumulators

bci.sa

Pulp and paper processing, textile scouring and dyeing, and soap and detergent manufacturing basekim.com

Petroleum refining, oil drilling, aluminum processing, and chemical synthesis basekim.com

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Keep tightly closed in a dry place — the flakes absorb moisture and carbon dioxide from air. Use steel, polyethylene or polypropylene containers, never aluminum or galvanized metal. Keep away from acids.

Adjudicated

HANDLING PRECAUTIONS

Use full PPE including chemical splash goggles and alkali-resistant gloves. Add base to water slowly with stirring. Highly exothermic dilution.

Class-level guidance — not product-specific; the SDS controls.

INCOMPATIBILITIES

Water in quantity (violent heat release); acids (violent reaction); aluminum, zinc, tin, copper and their alloys, including galvanized metal (releases flammable hydrogen); halogens and organic halogen compounds; nitro compounds; strong oxidizers.

Adjudicated

SHELF LIFE

36 months chemtradelogistics.com

Stated by the source for solid sodium hydroxide (Chemtrade pellets, not flakes), stored dry, cool and well-ventilated; some caking may develop within 1 year.

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

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UN1823, Sodium hydroxide, solid, 8, PG II
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Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS	PLACARD	PACKING GROUP
60	Corrosive	PG II

REVISION HISTORY

Last reviewed 2026-10-07 by Andre Taki, Chief Commercial Officer, DOT Hazmat–certified (49 CFR 172.704).

VERSION	DATE	CHANGE	TRIGGER
1.4	2026-10-07	Canonical data updated: 24 fields changed via the provenance/adjudication pipeline. • ghsClassification · canonical change (coa.data_provenance / adjudication) • hazard_h_codes · canonical change (coa.data_provenance / adjudication) • hazard_p_codes · canonical change (coa.data_provenance / adjudication) • synonyms · canonical change (coa.data_provenance / adjudication) • restrictions_on_use · canonical change (coa.data_provenance / adjudication) • odor · canonical change (coa.data_provenance / adjudication) • pH · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • boilingPoint · canonical change (coa.data_provenance / adjudication) • specificGravity · canonical change (coa.data_provenance / adjudication) • solubility · canonical change (coa.data_provenance / adjudication) • vaporPressure · canonical change (coa.data_provenance / adjudication) • flashPoint · canonical change (coa.data_provenance / adjudication) • oel_acgih_tlv · canonical change (coa.data_provenance / adjudication) • oel_niosh_rel · canonical change (coa.data_provenance / adjudication) • oel_idlh · canonical change (coa.data_provenance / adjudication) • incompatible_materials · canonical change (coa.data_provenance / adjudication) • conditions_to_avoid · canonical change (coa.data_provenance / adjudication) • hazardous_decomposition_products · canonical change (coa.data_provenance / adjudication) • storage_precautions · canonical change (coa.data_provenance / adjudication) • rcra_waste_codes · canonical change (coa.data_provenance / adjudication) • cercla_rq · canonical change (coa.data_provenance / adjudication) • dot_transport_note · canonical change (coa.data_provenance / adjudication) • recommended_use · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.3	2026-09-30	Canonical data updated: 3 fields changed via the provenance/adjudication pipeline. • boilingPoint · canonical change (coa.data_provenance / adjudication) • meltingPoint · canonical change (coa.data_provenance / adjudication) • appearance · canonical change (coa.data_provenance / adjudication)	canonical_change
1.2	2026-07-22	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. • dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication) • dotProperShippingName · canonical change (coa.data_provenance / adjudication)	canonical_change
1.1	2026-06-18	Canonical data re-verified: 3 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). • countryOfOrigin · canonical adjudication / reground (coa.data_provenance) • ghsClassification · canonical adjudication / reground (coa.data_provenance) • hsCode · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL-first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.