TECHNICAL DATA SHEET

Sodium Hydroxide Flakes ACS Grade

ACS Grade

CAS NUMBER	ALLIANCE CODE	GENERATED
1310-73-2	sodium-hydroxide-flakes-acs-grade	2026-07-21

1. IDENTITY & COMPOSITION

PRODUCT NAME
Sodium Hydroxide Flakes ACS Grade

ALLIANCE CODE
sodium-hydroxide-flakes-acs-grade

GRADE
ACS Grade

CONCENTRATION
—

CAS NUMBER
1310-73-2 PubChem

FORMULA
HNaO PubChem

MOLECULAR WEIGHT
39.997 PubChem

PRODUCT TYPE
pure_substance

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS Grade	—	—	current
—	—	—	sodium-hydroxide-flakes

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

One or more physical-property values are temporarily suppressed pending verification against vendor COA data. For complete properties refer to the Safety Data Sheet (SDS) or contact sales@alliancechemical.com.

FORM
Solid Product record

ODOR
... Odorless ... Product record

DENSITY
1.5 at 68 °F (USCG, 1999) - Denser than water; will sink Product record

BOILING POINT
greater than 266 °F at 760 mmHg (USCG, 1999) Product record

MELTING POINT
604 °F (USCG, 1999) Product record

FLASH POINT
Not applicable Product record

VAPOR PRESSURE
0 mmHg (approx) (NIOSH, 2024) Product record

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

MATERIALS OF CONSTRUCTION

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
Buna-N (NBR) Elastomer	Fair	40	Limited service life	Cole-Parmer Chemical Compatibility
EPDM Elastomer	Excellent	90	Preferred elastomer	Cole-Parmer Chemical Compatibility
Viton (FKM) Elastomer	Poor	—	Not recommended above 25%	Cole-Parmer Chemical Compatibility
PTFE Fluoropolymer	Excellent	200	Lining and gaskets	Cole-Parmer Chemical Compatibility
Borosilicate Glass Glass Ceramic	Fair	25	Attacked above 30 % or elevated temp; avoid long-term service.	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
304 stainless steel Metal	Good	80	Acceptable for dilute caustic	Cole-Parmer Chemical Compatibility
316 stainless steel Metal	Excellent	95	Standard caustic service	Cole-Parmer Chemical Compatibility
316L Stainless Steel Metal	Excellent	80	Preferred metal for caustic service.	NACE TM0177
Aluminium Metal	Not recommended	—	Rapid attack; generates hydrogen	Cole-Parmer Chemical Compatibility
Carbon steel Metal	Good	50	Acceptable to 50 °C; caustic embrittlement above	Cole-Parmer Chemical Compatibility
Carbon Steel Metal	Good	60	Acceptable below 70 °C; caustic embrittlement risk above.	NACE Caustic Service Limits
Nickel Metal	Excellent	100	Preferred for high-temperature caustic	Cole-Parmer Chemical Compatibility
Zinc / galvanized steel Metal	Not recommended	—	Rapid corrosion	Cole-Parmer Chemical Compatibility
HDPE Thermoplastic	Excellent	60	Standard drum / IBC material	Cole-Parmer Chemical Compatibility
Polypropylene Thermoplastic	Excellent	80	Excellent caustic service to 50 %.	Cole-Parmer Chemical Compatibility
PP Thermoplastic	Excellent	80	Preferred for elevated temperature	Cole-Parmer Chemical Compatibility

MATERIAL	RATING	MAX T (°C)	NOTES	SOURCE
PVC Thermoplastic	Good	40	Acceptable for ambient service	Cole-Parmer Chemical Compatibility

Ratings reflect the service envelope (concentration × temperature) shown. Always confirm against your specific duty cycle and contact-time before equipment selection. The most cautious rating across overlapping references is shown.

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 HAZCOM 2012

SIGNAL WORD
Danger Adjudicated

H-CODES (HAZARD STATEMENTS)
H290, H314 ECHA CLP Annex VI

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

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)
2 mg/m³ TWA OSHA 29 CFR 1910.1000

ACGIH TLV
— unknown

NIOSH REL
2 mg/m³ ceiling NIOSH Pocket Guide

NIOSH IDLH
10 mg/m³ NIOSH Pocket Guide

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

Supplier Qualification Packet

One zipped download containing the TDS, SDS, latest lot COA (when available), and a fresh Letter of Continuing Guaranty for Sodium Hydroxide Flakes ACS Grade. Every file included is SHA-256 hashed and listed in a manifest your QA team can audit.

CATALOG EQUIVALENTS CROSS-REFERENCE VS MAJOR CHEMICAL SUPPLIERS

SIGMA-ALDRICH

SKU	GRADE	CONC.	MATCH	NOTES
S5881	ACS Reagent	≥97%	Exact	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.

APPLICATION GUIDANCE

Sodium Hydroxide Flakes ACS Grade (ACS Grade) is a strong base used for pH control, saponification, and chemical manufacturing.

- pH adjustment and neutralization
- Saponification and detergent manufacturing
- Pulp and paper processing
- Water treatment and softening
- Chemical synthesis (caustic-driven reactions)

Highly exothermic when diluted — control mixing rate and temperature. Hygroscopic; protect from atmospheric moisture and CO2.

STORAGE & HANDLING

RECOMMENDED STORAGE

Cool, dry, well-ventilated area in compatible containers (HDPE, lined steel — not aluminium). Tightly sealed; protect from atmospheric…

HANDLING PRECAUTIONS

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

INCOMPATIBILITIES

Acids (violent neutralization), aluminium, zinc, tin (generates hydrogen gas), halogens, organic nitro compounds.

SHELF LIFE

24 months from date of manufacture in sealed, original packaging

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)

UN1823, Sodium hydroxide, solid, 8, PG II

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 2026-06-18 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
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.