CHLOR-ALKALI CHEMICALS · TECHNICAL DATA SHEET

Caustic Soda (NaOH) — 99% Flakes, Pearls & 50% Liquid

Anhydrous Solid Flakes 99% · Free-Flowing Micro-Pearls 99% · Membrane-Grade 50% Aqueous Solution (IMDG Class 8)

BEG-TDS-CAUSTIC

HS: 2815.11 (Solid) / 2815.12 (Liq.)
CAS: 1310-73-2 · **UN:** 1823 / 1824 (Cl. 8)
beroilenergy.com/caustic-soda-supplier

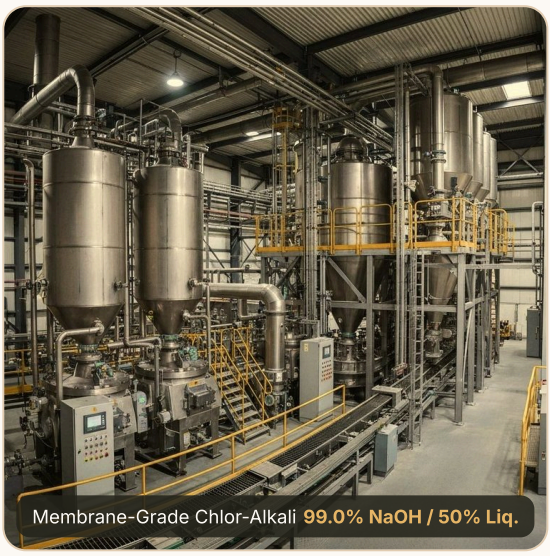
SOLID PURITY (NAOH)	MIN. CONTRACT QTY	IMDG CLASSIFICATION	INSPECTION & TERMS
99.0% Wt Min	50 – 100 MT (FCL)	Class 8 · PG II	SGS · FOB / CFR

Product Overview & Chlor-Alkali Standards

ASTM E291 / GB 209

Beroil Energy Group exports industrial-grade Sodium Hydroxide (Caustic Soda) produced via modern ion-exchange membrane electrolysis, ensuring ultra-low chloride (≤ 0.05% in solids) and minimal iron contamination (≤ 0.005% Fe_2O_3). Available in 99% anhydrous Flakes, dustless free-flowing Pearls (microprills), and 50% aqueous solution packaged under full IMDG Class 8 PG II compliance.

- UN 1823 Solid (Flakes & Pearls)
- UN 1824 50% Aqueous Liquid
- Low Salt & Iron Membrane Grade
- 25 kg PP/PE · 1 MT FIBC · IBC


Membrane-Grade Chlor-Alkali **99.0% NaOH / 50% Liq.**

01 · Solid Anhydrous Grades — Caustic Soda Flakes 99% & Pearls 99% (UN 1823)

PACKAGING	MIN. ORDER	IMDG CLASS	VERIFICATION
25 / 50 kg PP+PE · 1 MT FIBC	50 – 100 MT	UN 1823 · Class 8 · PG II	SGS / Intertek COA

PARAMETER	UNIT	TEST METHOD	FLAKES 99%	PEARLS (PRILLS) 99%
Sodium Hydroxide (NaOH)	% wt	ASTM E291 / GB/T 209	**99.0 Min (98.5–99.2)**	**99.0 Min (98.5–99.2)**
Sodium Carbonate (Na_2CO_3)	% wt	Acidimetric Titration	**0.50 Max**	**0.50 Max**
Sodium Chloride (NaCl)	% wt	Potentiometric / Volhard	**0.05 Max**	**0.05 Max**
Iron Oxide (Fe_2O_3)	% wt	Spectrophotometric	**0.005 Max (10–20 ppm Fe)**	**0.005 Max (10–20 ppm Fe)**
Sodium Sulfate (Na_2SO_4)	% wt	Gravimetric / IC	0.03 Max	0.03 Max
Water Insoluble Matter	% wt	Filtration	0.05 Max	0.05 Max
Particle Form & Size	mm	Visual / Sieve	White flat flakes (~1–2 mm)	Dustless spheres (~0.5–1.5 mm)

02 · Liquid Caustic Soda 50% Solution — Membrane Grade (HS 2815.12 · UN 1824)

PARAMETER	UNIT	TEST METHOD	SPECIFICATION (MEMBRANE 50%)
NaOH Concentration	% wt	ASTM E291 / Titration	**49.5 – 50.5 (Target 50.0%)**
Sodium Carbonate (Na_2CO_3)	% wt	Titration	**0.20 Max (≤ 0.10% membrane typical)**
Sodium Chloride (NaCl)	% wt	Titration / IC	**0.03 Max (30–75 ppm typical)**
Iron (as Fe_2O_3)	% wt	Spectrophotometric	**0.002 Max (≤ 5 ppm Fe)**
Specific Gravity @ 20 °C	g/cm³	Hydrometer / ASTM D891	**1.52 – 1.53**
Crystallization / Freezing Pt.	°C	Thermal Curve	~12 °C (maintain tankage ≥ 15–20 °C)

Physicochemical Properties, Form Selection & IMDG Class 8 Packaging

03 · Physicochemical & Safety Reference

NaOH

Formula / Molar Mass	**NaOH · 39.997 g/mol**
Melting / Boiling Pt. (100%)	318 °C / 1,388 °C
pH (1% Aqueous Solution)	**13.0 – 14.0 (Strong Alkali)**
Deliquescence & CO_2 Absorption	Rapidly absorbs H_2O & CO_2 if exposed
Exothermic Dilution Hazard	Always add NaOH slowly to cool water
Compatible Tank Materials	SS 316L, Nickel, Carbon Steel (< 60 °C), HDPE
Incompatible Materials	Avoid Aluminum, Zinc, Tin, Galvanized Steel

04 · Flakes vs. Pearls vs. 50% Liquid Fit

Sector Guide

INDUSTRY APPLICATION	RECOMMENDED FORM & BENEFIT
Alumina, Mining & Metallurgy	**Flakes 99% / 50% Liq.** — bauxite digestion & pH
Soaps, Detergents & Formulators	**Pearls 99%** — automated screw-dosing, low dust
Pulp, Paper & Textile Mercerizing	**Flakes 99% / 50% Liq.** — delignification & bleach
Oil & Gas Desulfurization	**50% Liquid / Flakes** — mercaptan & H_2S scrubbing
Water Treatment & Cleaning	**50% Liq. / Flakes** — CIP & demineralization

05 · IMDG Class 8 Packaging Formats, Container Loads & Dangerous Goods Compliance

PACKING FORMAT	NET WEIGHT	UN CODE & 20FT FCL PAYLOAD	OPERATIONAL & MARINE TRANSIT NOTES
25 kg Double-Lined PP+PE Bags	**25 kg Net**	UN 1823 · ~25–27 MT / 20ft	Double moisture-barrier liner; heat-sealed to prevent caking
50 kg Double-Lined PP+PE Bags	**50 kg Net**	UN 1823 · ~25–27 MT / 20ft	Regional overland and manual tank mixing operations
1,000 kg Jumbo FIBC (Lined)	**1,000 kg Net**	UN 1823 · ~20–22 MT / 20ft	UV-stabilized 4-loop bulk bag with heavy PE inner barrier
1,000 L IBC Totes / ISO Tank	**~1.52 MT / IBC · ~22–24 MT ISO**	UN 1824 · Class 8 PG II	For 50% Liquid NaOH; heated discharge lines recommended < 15 °C

IMDG Hazardous Cargo Compliance: Shipped as DG Class 8 (Corrosive, PG II) with UN-certified packaging, hazard placarding, Dangerous Goods Declaration (DGD), and 16-section GHS MSDS. Keep solid bags dry; keep 50% liquid above 15 °C.

06 · Standard Export Procurement & DG Execution

Trade Execution

STEP 01 · FORM & UN CODE

Flakes, Pearls (UN 1823) or 50% Liq. (UN 1824)

Confirm physical form, chloride/iron ceiling, UN-certified bag/IBC format, tonnage (50–100+ MT), and destination port.

STEP 02 · DG FREIGHT QUOTE

IMO Class 8 Carrier Slot & Pricing

Receive firm FOB, CPT, or CFR ASWP offer including carrier dangerous goods booking validation and SGS specifications.

STEP 03 · SEALING & COA

Moisture-Tight Stuffing & SGS Assay

Pre-shipment SGS inspection verifies NaOH purity, Na_2CO_3, NaCl, Fe_2O_3, UN package integrity, and DG container placarding.

STEP 04 · DG DOC RELEASE

DGD, MSDS, COA & Bill of Lading

Delivered with Dangerous Goods Declaration, GHS MSDS, Certificate of Origin, Invoice, Packing List, and Ocean B/L.

Need Firm Caustic Soda Flakes, Pearls, or 50% Liquid Pricing?

Specify form (99% Flakes, 99% Pearls, or 50% Liquid), UN packaging (25/50 kg, 1 MT FIBC, IBC, ISO), tonnage, and destination port for a Class 8 quote.

Request Quote / Lot COA →

beroilenergy.com/caustic-soda-supplier

info@beroilenergy.com · +44 7449 139023