

Caustic Soda Flakes

Safety data sheet in the 16-section GHS format · CAS 1310-73-2

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1. Identification of the substance and of the supplier

Product name	Caustic Soda Flakes
Synonyms	sodium hydroxide flakes, NaOH flakes, caustic flakes
C.A.S. number	1310-73-2
Molecular formula	NaOH
Grade supplied	98% min
Product group	Alkalis & Bases
Identified uses	Soap & detergent, Textiles, Water & effluent treatment, Chemicals & pharma, Metal finishing, Biodiesel
Supplier	Velora Chemicals Private Limited
Emergency contact	Medical, fire or spill emergency — call the emergency services first: 112 (all-India), 101 fire, 108 ambulance. Velora Chemicals Private Limited does not at present operate a 24-hour chemical emergency advice line, and this sheet does not pretend otherwise. Every consignment despatched by road carries an emergency information panel under rule 134 of the Central Motor Vehicles Rules 1989 bearing a number from which expert advice on this material can be obtained, and the producer's safety data sheet issued with the consignment carries the producer's own 24-hour number where one is operated. For product, grade and documentation queries in business hours: +91 99255 22674.

2. Hazards identification

GHS signal word	Danger
Hazard classification	Skin Corr. 1A — H314 (EU harmonised, CLP Annex VI index 011-002-00-6); Met. Corr. 1 — H290 (supplier self-classification, not in Annex VI); Acute Tox. 4 oral — H302 and STOT SE 3 — H335 appear on some non-EU sheets (ILO ICSC 0360, Chemfab Alkalis) as self-classification and are NOT part of the EU harmonised entry

3. Composition / information on ingredients

Substance	Caustic Soda Flakes
C.A.S. number	1310-73-2
Molecular weight	40.00 g/mol
Composition	98% min

4. First-aid measures

Eye contact	Immediately flush the eye with gently flowing water or saline for at least 20 minutes, holding the eyelids wide apart; remove contact lenses if easy to do and continue rinsing. Brush away any solid flakes first, but do not delay irrigation. Use only water or saline — never a neutralising agent. Obtain immediate ophthalmological attention and continue irrigation during transport; solid caustic in the eye can cause blindness within seconds.
Skin contact	Brush off dry flakes before wetting the skin (wetting them in place generates heat), then wash the area in flowing water for at least 20 minutes while removing contaminated clothing, shoes and jewellery. Do not apply neutralising agents, acids or ointments. The burn is deceptive — the skin feels slippery and pain may be delayed, so continue irrigation for the full period. Get medical attention.
Inhalation	Move to fresh air at once and keep at rest in a half-upright position. Give oxygen if breathing is difficult; if breathing has stopped, give artificial respiration. Caustic dust can cause delayed airway swelling and pulmonary oedema — refer immediately for medical attention and observation even if the person appears to recover.
Ingestion	Do NOT induce vomiting and do NOT attempt neutralisation with acids, vinegar or fruit juice (some older Indian MSDS wrongly advise this). Rinse the mouth with water. If the casualty is fully conscious and able to swallow, give about 240 mL of water or milk to dilute. Give nothing by mouth to an unconscious or convulsing person. Transport to a medical facility immediately.

5. Fire-fighting measures

Flash point	Not flammable (non-combustible solid). Caution: contact with aluminium, zinc, tin or galvanised metal in the presence of moisture liberates flammable hydrogen gas
Suitable extinguishing media	Water fog, foam, dry chemical powder or carbon dioxide, chosen to suit the surrounding fire. The substance itself does not contribute fuel.
Unsuitable extinguishing media	Do not use a high-pressure water jet: it will spread the material and the fire.
Special hazards arising from the substance	Hazardous gases and decomposition products may be formed in a fire, from this substance or from its packaging and the materials stored with it. Packaging and pallets are themselves a substantial fire load. That is true even though the contents do not contribute fuel.
Advice for fire-fighters	Fire-fighters must wear self-contained breathing apparatus and full protective clothing. Keep unnecessary personnel away and upwind. Prevent firefighting run-off from entering drains, surface water or groundwater.

6. Accidental release measures

Keep unnecessary personnel away and upwind, and ventilate. Wear the protective equipment in section 8, including respiratory protection, before approaching. Eliminate ignition sources and prohibit smoking before approaching. Avoid raising dust, and never blow a spilled powder down with compressed air. Dry-collect — vacuum with a HEPA-filtered unit, or sweep gently without raising dust — into labelled, closable containers for disposal under section 13. A spill inside a vessel, tank, silo, container or pit is a confined-space job: test the atmosphere and work under permit. A fine powder makes a floor slippery, especially once wet, so treat every wetted surface as slippery until it has been washed and dried. Prevent entry to drains, surface water and groundwater. Do not return spilled material to the original container; a damaged bag should be overpacked into a labelled outer rather than decanted into an unmarked one.

7. Handling and storage

- Flakes are strongly hygroscopic. An opened bag left out will pick up moisture and cake solid within a day or two in Indian humidity — store sealed, off the floor, in a dry covered godown and open only what the batch needs. They also absorb carbon dioxide from the air and slowly convert to carbonate, so an old opened bag is weaker than the certificate says, not merely lumpy.

- Dissolving flakes releases a lot of heat. Always add flakes to water, never water to flakes, and add slowly enough that the solution does not boil and spit.
- Class 8 corrosive. Handle with face shield, apron and gauntlets; keep an eyewash station at the make-up tank.

Storage: Store in a cool, dry, well-ventilated area in tightly closed, moisture-proof HDPE-lined bags, drums or steel silos. Keep strictly away from water, damp floors, acids, food and feedstuffs, and from aluminium/zinc/tin/galvanised equipment. Flakes cake and form hard lumps if they absorb moisture. Provide eyewash and safety shower. When making up solution, add flakes slowly to a large volume of cold water with agitation — NEVER add water to flakes.

8. Exposure controls / personal protection

Engineering controls. Enclose every transfer, tipping, bag-slitting and sampling point and fit local exhaust extraction at each, and keep airborne concentrations below the limit in force at the place of use. Provide an eyewash within reach of the working position, and a safety shower wherever the material is classified corrosive or irritant or is handled in quantity. Do not eat, drink or smoke in the handling area; wash before breaks. Where no limit is stated above, occupational exposure limits vary by jurisdiction: check the limit in force at the place of use and the producer's sheet for the grade supplied, and record which value your assessment adopted. Select eye, skin and respiratory protection on the strength of a measured or modelled exposure assessment, not on this sheet alone.

9. Physical and chemical properties

Appearance	White, odourless, opaque flakes; strongly hygroscopic and deliquescent, absorbs moisture and carbon dioxide from air
Physical state	Solid (flakes)
Melting / freezing point	318 C
Boiling point	1388-1390 C
Relative density	2.13 g/cm ³ (true density of the solid at 20 C). Bulk/poured density of flakes 0.7-0.8 g/cm ³ at 25 C (Aditya Birla SDS)
Solubility in water	109 g/100 mL at 20 C (1090 g/L) — very soluble; dissolution is violently exothermic
pH	14 (5% aqueous solution — Chemfab Alkalis SDS)
Flash point	Not flammable (non-combustible solid). Caution: contact with aluminium, zinc, tin or galvanised metal in the presence of moisture liberates flammable hydrogen gas
Auto-ignition / ignition temperature	Not available
Explosive / dust-explosion properties	Not available
Vapour pressure	Not available
Vapour density	Not available
Partition coefficient (log Pow)	Not available
Particle characteristics	Not available
Molecular weight	40.00 g/mol

10. Stability and reactivity

Incompatible materials Water and moisture (violent exothermic dissolution with spattering); acids (violent neutralisation); aluminium, zinc, tin, lead, brass, bronze, copper and galvanised metals (liberates flammable hydrogen); ammonium salts (liberates ammonia); nitromethane and other nitro compounds (forms shock-sensitive salts); halogenated organics; flammable liquids; leather, wool and other proteinaceous materials; glycols; aldehydes; phenols; carbon dioxide from air

Conditions to avoid Store in a cool, dry, well-ventilated area in tightly closed, moisture-proof HDPE-lined bags, drums or steel silos. Keep strictly away from water, damp floors, acids, food and feedstuffs, and from aluminium/zinc/tin/galvanised equipment. Flakes cake and form hard lumps if they absorb moisture. Provide eyewash and safety shower. When making up solution, add flakes slowly to a large volume of cold water with agitation — NEVER add water to flakes.

11. Toxicological information

The health hazards classified for this substance are listed in section 2, and the corresponding first-aid measures in section 4. Numerical toxicological endpoints are not reproduced here: refer to the producer's safety data sheet for the grade supplied, and to the ECHA and PubChem entries for the substance.

12. Ecological information

Where section 2 or section 14 classifies this substance as hazardous to the aquatic environment, prevent any release to drains, surface water or groundwater and treat aqueous effluent before discharge. Otherwise, refer to the producer's sheet.

13. Disposal considerations

Dispose of the substance and its container through an authorised facility under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 where the waste is scheduled under those Rules, and otherwise as non-hazardous industrial waste, in each case under the conditions of the State Pollution Control Board consent in force at the site. Whether a particular waste stream is scheduled depends on the substance and on what it has been mixed with, so classify the waste before consigning it. Do not reuse empty containers for any other purpose.

14. Transport information

UN number	UN 1823
Class	8 (Corrosive)
Packing group	II
Proper shipping name	SODIUM HYDROXIDE, SOLID

15. Regulatory information

Supply in India is subject to the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 where the substance is scheduled, and to any product-specific licensing named on the product page. Classification and labelling follow the GHS as adopted in the jurisdiction of use.

Note: Solid sodium hydroxide is UN 1823; the aqueous solution of the same CAS number is UN 1824. Getting these the wrong way round is one of the most common errors on caustic paperwork. 98% min is the nominal assay on a 100% NaOH basis; the balance is mainly water with small amounts of Na₂CO₃ and NaCl. Dissolving flakes is violently exothermic and can raise a beaker of water above 80 C — a frequent cause of injury. The flakes are deliquescent: exposed material turns to a caustic slurry that is just as corrosive as the solid. Physical properties quoted (318 C melting, 1388 C boiling, 2.13 g/cm³) are for pure NaOH and do not change appreciably for 98% material, but the bulk density of the flake form (0.7-0.8 g/cm³) is what matters for packing and silo sizing.

16. Other information

Version	1.0
Date of issue	07 October 2026
Supersedes	No previous version

Regulatory basis as at the date of issue

EU CLP Regulation 1272/2008 as amended, including Annex VI harmonised classifications; UN Model Regulations and the IMDG Code Amendment 42-24, mandatory from 1 January 2026; ADR 2025; and, in India, the Manufacture, Storage and Import of Hazardous Chemical Rules 1989 and the Central Motor Vehicles Rules 1989.

How this sheet was compiled and what governs. This sheet was prepared by Velora Chemicals Private Limited as the supplier, from PubChem, the ECHA CLP inventory including Annex VI harmonised classifications, ILO International Chemical Safety Cards and published producer safety data sheets. Values that could not be confirmed from those sources are shown as "Not available" rather than estimated. **The producer's safety data sheet for the specific grade and lot supplied is the governing document** and is issued with the consignment; where the two differ, the producer's sheet prevails. This sheet carries no warranty of the properties of any particular batch. Velora Chemicals Private Limited is a bulk supplier and trader, not a manufacturer.

Sources consulted: https://chemicalsafety.ilo.org/dyn/icsc/showcard.display?p_card_id=0360&p_version=2&p_lang=en;
[https://chemfabalkalis.com/wp-content/uploads/2023/03/MSDS-Caustic-Soda-Flakes_1.pdf;](https://chemfabalkalis.com/wp-content/uploads/2023/03/MSDS-Caustic-Soda-Flakes_1.pdf)
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<https://www.hazmattool.com/info.php?b=UN1823>