

Sodium Hypochlorite

Safety data sheet in the 16-section GHS format · CAS 7681-52-9

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1. Identification of the substance and of the supplier

Product name	Sodium Hypochlorite
Synonyms	liquid bleach, hypo solution, NaOCl, sodium hypo
C.A.S. number	7681-52-9 (sodium hypochlorite). The supplied product is an aqueous solution of this substance plus excess sodium hydroxide, so declare it as a mixture on the SDS while quoting this CAS for the active.
Molecular formula	NaOCl (also written NaClO)
Grade supplied	10% – 14% available chlorine
Product group	Industrial Salts & Inorganics
Identified uses	Water treatment, Textiles, Food & dairy, Effluent treatment, Paper, Sanitation
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	Met. Corr. 1 - H290; Skin Corr. 1B - H314; Eye Dam. 1 - H318; Aquatic Acute 1 - H400; Aquatic Chronic 2 - H411; plus the supplemental statement EUH031 - 'Contact with acids liberates toxic gas'. This set is consistent between the BASF (13-16%) and Chemtrade (7-13%) producer SDS. There is an EU harmonised CLP Annex VI entry for sodium hypochlorite solution with concentration-dependent limits - below roughly 5% active chlorine the skin/eye endpoints drop to Skin Irrit. 2 / Eye Irrit. 2 - so verify against Annex VI for any grade other than the 10-14% covered here. EUH031 must appear on the label; omitting it is a common and dangerous error.

3. Composition / information on ingredients

Substance	Sodium Hypochlorite
C.A.S. number	7681-52-9 (sodium hypochlorite). The supplied product is an aqueous solution of this substance plus excess sodium hydroxide, so declare it as a mixture on the SDS while quoting this CAS for the active.
Molecular weight	74.44 g/mol (given as 74.4 on the ILO ICSC card). This is for sodium hypochlorite itself; the 10-14% solution is a mixture and has no single molecular weight.

Composition	10% – 14% available chlorine
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4. First-aid measures

Eye contact	Rinse immediately with plenty of gently running water, holding the eyelids apart, for at least 15 minutes - producer SDS for this material advise continuing for up to 60 minutes. Remove contact lenses if easy to do and keep rinsing. Get medical attention immediately: the solution is corrosive and can cause permanent eye damage.
Skin contact	Immediately flush the affected skin with plenty of water for at least 15 minutes (one producer specifies 60 minutes), removing contaminated clothing, shoes and jewellery while flushing. Do not use neutralising agents or creams. Call a poison centre or doctor for any burn, blistering or persistent pain.
Inhalation	Move the person to fresh air at once, ventilate the area and keep them at rest in a half-upright position. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Refer for medical attention even if symptoms settle - chlorine and chloramine inhalation can cause delayed pulmonary oedema, and the casualty should be kept under observation.
Ingestion	Do NOT induce vomiting - the material is corrosive and vomiting re-exposes the oesophagus. Rinse the mouth and, if the person is conscious, give 200-300 mL of water to drink. Give nothing by mouth to an unconscious person. Get medical attention immediately.

5. Fire-fighting measures

Flash point	Not flammable
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 before approaching. Stop the leak if it is safe to do so, then bund or dike the spill and prevent entry to drains, surface water and groundwater. Absorb with an inert absorbent and collect into labelled, closable containers for disposal under section 13. Do not return spilled material to the original container.

7. Handling and storage

- Hypo degrades — it loses available chlorine steadily, and faster when warm or in sunlight. Buy against consumption rather than stockpiling; material sitting through a Gujarat summer will be measurably weaker in weeks. Store cool, dark and vented.
- Never let it contact acid. Mixing hypochlorite with any acid releases chlorine gas, and this is the accident that actually happens in Indian plants — usually when a cleaning acid and hypo share a bund. Segregate them physically.
- Acid is not the only incompatibility. Hypochlorite with ammonia or any ammonium salt releases chloramine — which catches out dairy and food plants using ammonia-based and quaternary cleaners, and water works that chloramine. Hypochlorite with hydrogen peroxide reacts violently and evolves oxygen fast. Give hypo its own bund, its own pump and its own hoses, shared with nothing.
- Use HDPE, FRP or lined storage, vented. It attacks most metals. Class 8 corrosive.

Storage: Store cool (below about 30 degC), out of direct sunlight and away from heat, in a dark, well ventilated area. Use vented HDPE, GRP/FRP, titanium or rubber-lined vessels - the solution slowly evolves oxygen, so closures must vent. Keep physically segregated from acids, with separate bunds and separate fill points, and never share a bund or a delivery line with poly aluminium chloride, alum or any acid. Keep away from combustibles, reducing agents, ammonia and food. Strength decays with time and temperature, so rotate stock and re-test before sale.

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	Clear, slightly greenish-yellow to yellow liquid with a strong, characteristic chlorine odour. Trace suspended solids and a faint precipitate are normal in aged material.
Physical state	Liquid (aqueous solution)
Melting / freezing point	-30 to -20 degC for solutions with more than 10% active chlorine (ILO ICSC 1119)
Boiling point	About 110 degC (Chemtrade producer SDS); BASF gives 100 degC and notes this is the boiling point of the water - the hypochlorite itself decomposes. Never heat or boil the product.
Relative density	1.20-1.25 g/mL at 20 degC (ILO ICSC 1119); 1.21 for a 14% solution at 20 degC; 1.19 specific gravity reported for a 7-13% product
Solubility in water	Fully miscible with water; solubility of sodium hypochlorite itself 293 g/L at 20 degC
pH	Strongly alkaline. pH 12 measured at 160 g/L dilution (BASF SDS for a 13-16% w/w product). A North American producer quotes pH 14 for a 7-13% product measured as supplied. Commercial 10-14% solutions are deliberately made alkaline with excess caustic soda for stability, so as-supplied pH is typically in the 11-13.5 range - publish your own COA figure and always state whether it is the neat solution or a dilution.
Flash point	Not flammable
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	74.44 g/mol (given as 74.4 on the ILO ICSC card). This is for sodium hypochlorite itself; the 10-14% solution is a mixture and has no single molecular weight.

10. Stability and reactivity

Incompatible materials ACIDS OF ANY KIND - including hydrochloric, sulphuric, phosphoric, acetic and citric acid, acidic drain cleaners, acidic descalers, and acidic coagulants such as poly aluminium chloride, alum and ferric chloride. Contact liberates chlorine gas immediately and in lethal quantity in a confined space. Also incompatible with: ammonia, ammonium salts, urea and amines (forms toxic and potentially explosive chloramines / nitrogen trichloride); hydrogen peroxide; methanol and other alcohols; organic material, oils and greases; reducing agents; and the metals copper, brass, nickel, aluminium, zinc, tin, mild and galvanised steel. Corrodes most metals and attacks many rubbers.

Conditions to avoid Store cool (below about 30 degC), out of direct sunlight and away from heat, in a dark, well ventilated area. Use vented HDPE, GRP/FRP, titanium or rubber-lined vessels - the solution slowly evolves oxygen, so closures must vent. Keep physically segregated from acids, with separate bunds and separate fill points, and never share a bund or a delivery line with poly aluminium chloride, alum or any acid. Keep away from combustibles, reducing agents, ammonia and food. Strength decays with time and temperature, so rotate stock and re-test before sale.

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 1791
Class	8 (Corrosive substances), classification code C9
Packing group	II for 10-14% available chlorine - both the BASF 13-16% and Chemtrade 7-13% producer SDS assign PG II. Note that the UN/ADR dangerous goods list contains BOTH a PG II and a PG III entry for UN 1791; the group follows the measured corrosivity of the actual solution, so weaker or less aggressive hypochlorite solutions are legitimately shipped PG III. Special provision 521 is assigned to this entry - check its current text in the ADR/UN edition you are shipping under.
Proper shipping name	HYPOCHLORITE SOLUTION

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: Read the concentration basis carefully: '10-14%' is normally quoted as % available (active) chlorine, which is not the same number as % sodium hypochlorite by weight - a 14% available chlorine solution is roughly 14.7% NaOCl w/w, and Indian trade practice sometimes quotes trade percent or grams per litre instead. UN classification and CLP category both depend on the available chlorine figure, so establish the basis before writing either the label or the transport document. The severe acid incompatibility is the headline safety point: mixing hypochlorite with any acid - including the poly aluminium chloride on the next line of your own price list - releases chlorine gas and has killed plant operators. Decomposition also produces oxygen (pressure build-up in sealed drums) and, on prolonged storage or heating, chlorate. Do not use hypochlorite that has been decanted and returned. Titanium is suitable; stainless steel is NOT.

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=1119; https://download.basf.com/p1/000000000030042344_SDS_GEN_00/en_UN/Sodium_hypochlorite_solution_30042344_SDS_GEN_00_en_2-1.pdf; https://www.chemtradelogistics.com/wp-content/uploads/2020/08/SDS-Sodium_Hypochlorite-EN.pdf; <https://adrdangerousgoods.com/eng/substances/0001145/un1791-hypochlorite-solution/>; <https://adr-tool.com/1142/un-1791>; <https://pubchem.ncbi.nlm.nih.gov/compound/23665760>; https://chemicalsafety.ilo.org/dyn/icsc/showcard.display?p_lang=en&p_card_id=0482&p_version=2