SAFETY DATA SHEET

SODIUM HYPOCHLORITE 10-12%

CAS No.: 7681-52-9

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

SODIUM HYPOCHLORITE 10–12%
Sodium salt of hypochlorous acid; Sodium oxychloride; Liquid Bleach
CAS: 7681-52-9

Other means of identification

Molecular Formula: NaOCl | Molecular weight: 74.44

Recommended use of the chemical and restrictions on use

Relevant uses: Disinfectant/biocide for water and effluent treatment, bleaching agent, sanitiser. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
The source safety data sheet is in pre-GHS (Risk/Safety phrase) format. Risk phrases R23/24/25, R34, R36/37/38 and R50/53 have been translated below to their modern GHS Hazard-statement equivalents, in line with the well-established public/harmonised classification for Sodium Hypochlorite solutions (≤10% available chlorine, CAS 7681-52-9):

Skin Corr. 1B	Skin corrosion, Category 1B, H314 (translated from R34: Causes burns)
Aquatic Acute 1	Hazardous to the aquatic environment, acute hazard, Category 1, H400 (translated from R50/53)
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic hazard, Category 1, H410 (translated from R50/53)

EUH031: Contact with acids liberates toxic gas (translated from the source's "Main Risk: Contact with acids and ammonia").

GHS label elements, including precautionary statements

GHS: Danger

Hazard statements

Skin Corr. 1B: H314 – Causes severe skin burns and eye damage.
Aquatic Acute 1: H400 – Very toxic to aquatic life.
Aquatic Chronic 1: H410 – Very toxic to aquatic life with long lasting effects.
EUH031: Contact with acids liberates toxic gas.

Precautionary statements

P234: Keep only in original container.
P260: Do not breathe gas/fumes/vapour/spray.
P264: Wash hands thoroughly after handling.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations on hazardous waste.

Other hazards which do not result in classification

Reacts with ammonia, amines and acids to liberate toxic/corrosive gases (chloramine, chlorine). Releases oxygen when heated, which may increase the severity of an existing fire.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Sodium Hypochlorite solution

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7681-52-9	Sodium Hypochlorite — Skin Corr. 1B: H314; Aquatic Acute 1: H400; Aquatic Chronic 1: H410 – Danger	Minimum 10% (as NaOCl)
—	Water (solvent)	Balance

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Aqueous solution – see composition table above.

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance immediately, showing the SDS of this product.

By inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

By skin contact

Wash the affected area with plenty of water. Remove contaminated clothing. Seek medical aid immediately.

By eye contact

Hold eyelids apart and flush the eye continuously with running water for at least 15–20 minutes. Seek medical aid immediately.

By ingestion/aspiration

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

May irritate skin; severe irritation and damage to eyes, especially at higher concentration. May cause irritation to the respiratory tract, nose and throat with coughing and sore throat. Ingestion may cause nausea and vomiting.

Indication of immediate medical attention and special treatment needed, if necessary

Seek medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Use any means suitable for extinguishing the surrounding fire. Use water spray to cool fire-exposed containers.
Unsuitable: None known.

Specific hazards arising from the chemical

Not considered a fire hazard by itself. Substance releases oxygen when heated, which may increase the severity of an existing fire. Containers may rupture from pressure build-up. Not subject to spontaneous combustion.

Special protective actions for fire-fighters

Wear full protective clothing, goggles and self-contained breathing apparatus/masks.

Additional provisions

No unusual fire or explosive hazards.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Ventilate the area of leak or spill. Avoid contact with the liquid or vapours (eyes, skin, inhalation, ingestion). Wear appropriate PPE as specified in Section 8.

For emergency responders

Isolate the hazard area and keep unnecessary personnel from entering.

Environmental precautions

Prevent contamination of air, water and land.

Methods and materials for containment and cleaning up

Contain and recover liquid when possible. Collect in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth) and place in a chemical waste container. Do not use combustible materials such as sawdust. Do not flush to sewer without authorisation.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid contact with eyes, skin or clothing. Use only with adequate ventilation. Keep away from incompatibles (see section 10.5).

B. Technical recommendations for the prevention of fires and explosions

Keep containers closed and away from heat, flames and direct sunlight.

C. Technical recommendations on general occupational hygiene

Eye and skin protection should be used when handling. Wash hands thoroughly after handling.

D. Technical recommendations to prevent environmental risks

Avoid environmental spillage of both the product and its container.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage area	Cool, dry, well-ventilated area, away from incompatibles
Note	Containers may be hazardous when empty as they retain product residues (vapours/liquid)

B. General conditions for storage

Ensure containers are labeled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No specific occupational exposure limit is listed for sodium hypochlorite under the Factories Act, 1948; control exposure to below levels causing irritation.

Appropriate engineering controls

Ventilation required in the work area.

B. Respiratory protection

A full-face piece respirator with an acid-gas cartridge may be used while handling this material.

C. Specific protection for the hands

Full-length rubber gloves.

D. Eye and face protection

Splash-proof goggles or a face shield. Maintain eye wash and quick-drench facilities in the work area.

E. Bodily protection

PVC apron, coveralls, PVC/rubber suit and rubber boots.

F. Additional emergency measures

Emergency shower and eyewash stations should be available.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid
Appearance	Colourless to slightly yellow liquid
Odor	Chlorine-like
Volatility	
Boiling point	40°C
Vapour pressure at 20°C	17.5 mm Hg
Product Description	
Specific gravity at 20°C	1.07 – 1.30
pH	9 – 10
Solubility in water at 30°C	Soluble
Solubility in organic solvents	Soluble in organic solvents
Flammability	
Flash Point	Not pertinent
Autoignition	Not pertinent
Flammable Limit	Not applicable

Other information

Oxidising/Explosive properties	Stable oxidiser; not explosive
Corrosive to metals	Yes, corrosive to most common metals

10. STABILITY AND REACTIVITY

Reactivity
Reactive with acids (liberates toxic chlorine gas). Compatible with water and alkalis. No reaction with air under normal conditions.

Chemical stability
Stable under recommended storage conditions; gradually decomposes on prolonged storage, heat or exposure to sunlight, releasing oxygen and reducing available chlorine content.

Possibility of hazardous reactions
May evolve toxic chloramine gas on contact with ammonia, amines or ammonium salts; toxic chlorine gas on contact with acids.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	No reaction	Avoid heat	Avoid direct sunlight	Not applicable

Incompatible materials

Ammonia / Amines / Ammonium Salts	Acids	Oxidizable Metals	Methanol / Cellulose
Avoid contact (chloramine gas may evolve)	Avoid contact (releases toxic chlorine gas)	Avoid contact	Avoid contact

Hazardous decomposition products
Emits toxic fumes of chlorine when heated to decomposition. Sodium oxide at high temperatures.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)
May cause nausea, vomiting.

B. Inhalation (acute effect)
May cause irritation to the respiratory tract, nose and throat; symptoms may include coughing and sore throat.

C. Contact with skin and eyes (acute effect)
May irritate skin. Contact with eyes may cause severe irritation and damage, especially at higher concentration.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)
Carcinogenicity – classified IARC Group 3 (not classifiable as to carcinogenicity to humans). Mutagenicity: not known. Reproductive toxicity: not known.

E. Sensitizing effects
Not known to be a skin or respiratory sensitiser.

F. Specific target organ toxicity (STOT) – single exposure
May cause respiratory irritation at high vapour/mist concentrations.

G. Specific target organ toxicity (STOT) – repeated exposure
Classification criteria are not met based on available data.

H. Aspiration hazard
Classification criteria are not met based on available data.

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Sodium Hypochlorite CAS: 7681-52-9	LD50 oral: 8910 mg/kg	Rat

12. ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

Toxicity
No product-specific aquatic toxicity data available from the source; classified per R50/53 translation as very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and degradability
Not applicable – decomposes readily in the environment to chloride and oxygen.

Bioaccumulative potential
Not determined; not expected to bioaccumulate.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not relevant	Not relevant	No	No

Results of PBT and vPvB assessment
Non-applicable

Other adverse effects
Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Dilute with water and discharge in accordance with local trade-effluent/sewer regulations, where permitted; otherwise dispose of via an approved waste disposal facility. Dispose of container and unused contents in accordance with national, state and local requirements.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR/RID)

14.1 UN number	UN1791
14.2 UN proper shipping name	HYPOCHLORITE SOLUTION
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Transport Category: 2. Physico-chemical properties: see section 9
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by sea (IMDG)

14.1 UN number	UN1791
14.2 UN proper shipping name	HYPOCHLORITE SOLUTION
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk	Not relevant

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	UN1791
14.2 UN proper shipping name	HYPOCHLORITE SOLUTION
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	Not relevant
14.7 Transport in bulk	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H314: Causes severe skin burns and eye damage.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
EUH031: Contact with acids liberates toxic gas.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3. Original source R/S phrases: R23/24/25, R34, R36, R37, R38, R50/53, S2, S23, S24/25, S26, S36/37/39, S45, S61 – translated above to GHS H/P statements per standard public mapping tables.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

Original manufacturer's Material Safety Data Sheet (Aditya Birla Chemicals); standard public R/S-to-GHS translation tables; The United Nations Economic Commission for Europe (UNECE).

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | IARC: International Agency for Research on Cancer

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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