



Safety Data Sheet

Sodium Hypochlorite Solution, 14% Active

Section 1 Identification of the Substance and the Company:

1.1 Identification of the substance

Sodium hypochlorite solution, also known as bleach or hypo.

Product is sold by level of active chlorine, at time of shipment. 14% active is equivalent to 175 g/l of available chlorine. The chlorine is present as both hypochlorite and chloride. There is also a small amount of sodium hydroxide.

1.2 Use of the substance:

Used in water treatment, as a disinfectant, and for chemical manufacturing. Component of many janitorial products. Use as a chemical for the treatment of drinking water has received appropriate approval by the European Committee for Standardisation.

1.3 Company identification:

Hexeal Chemicals Ltd
21 Mackintosh Road, Norwich NR13 6LJ

+44 (0) 1603 604200 General telephone enquiries
sales@hexchem.co.uk Safety data sheet enquiries

1.4 Emergency telephone:

+44 (0) 1603 604200 (24-hour)

Section 2 Hazards Identification:

Hazard Class: **C: Corrosive**, and **N: Dangerous for the Environment**

Risk Phrases: R31, R34, R50

Causes burns to eyes, skin, and gastrointestinal tract
Vapours cause coughing and breathing difficulties
Contact with acids liberates toxic chlorine gas
Very toxic to aquatic organisms

Section 3 Composition/Information:

Chemical name	CAS Number	EINECS Number	Concentration	Hazard Class	Risk Phrase
Sodium hypochlorite	7681-52-9	231-668-3	12% - 16%	C, N	R31-34-50
Sodium hydroxide	1310-73-2	215-185-5	<0.8%	C	R35
Sodium chloride	7647-14-5	231-598-3	10% - 12%		
Water	7732-18-5	231-791-2	Balance		

Section 4 First Aid Measures:

In all cases of doubt, or where medical symptoms persist, [seek medical attention](#).

Eyes: **SPEED IS ESSENTIAL.** Wash out thoroughly with running water or saline solution for at least 15 minutes, keeping eyelids away from eyeballs to ensure thorough cleansing.

Skin: Remove contaminated clothing immediately, and launder before reuse. Drench skin thoroughly with water.

Inhalation: Move to fresh air, rest in half upright position, and loosen clothing. Administer oxygen if necessary.

Ingestion: Do not induce vomiting. If confined to the mouth area, give large quantities of water as a mouthwash, ensure the water is not swallowed. If substance has been swallowed, give water to drink.

Section 5 **Fire-Fighting Measures:**

Material is not combustible, but is an oxidising agent, and so may assist combustion.

Thermal decomposition will evolve toxic vapours (chlorine).

In contact with heavy metals, their compounds and alloys, sodium hypochlorite decomposes with evolution of oxygen.

Self-contained breathing apparatus and suitable protective clothing must be worn when fighting fires.

Use extinguishing media appropriate to the surrounding fire conditions.

Section 6 **Accidental Release Measures:**

Wear appropriate protective clothing.

Small quantities may be washed away with water.

Large spillages must be contained with sand or suitable absorbent material. Transfer to a closed container for disposal. Wash area with water.

Large quantities should be isolated, and pumped into a tank, or handled by a licensed hazardous waste contractor. Keep people and animals away from contaminated areas.

Keep out of drains and local watercourses. Isolate area using sand or earthen dykes. Spillages or uncontrolled discharges into watercourses or drains must be IMMEDIATELY alerted to the Environment Agency or other appropriate regulatory body.

Section 7 **Handling and Storage:**

7.1 Handling:

Handle with care as an alkaline material

Avoid contact with skin and eyes.

Wear appropriate protective clothing.

Do not breathe mist or fumes.

Do not mix with acids, or other cleaning fluids (especially ammonia).

7.2 Storage:

Store in vented vessels of rubber-lined mild steel or HDPE. Do not store in metal containers.

Uncontrolled pressure build up may occur in closed systems (vessels, pipes, etc.). so all containers must have a venting device.

Sludge may build up in tanks over time, due to salt deposition.

Keep away from acids, ammonia solutions, amines, and methanol

Keep away from heat and direct sunlight.

Section 8 **Exposure Controls/Personal Protection:**

8.1: Exposure limit values:

There is no Workplace Exposure Limit (WEL) listed in the UK EH40 for hypochlorite solutions. The limits for sodium hydroxide are:

Short-term exposure limit, 15-minutes TWA 2 mg/m³

Also, the following limits are given for chlorine vapour:

Short-term exposure limit, 15-minutes TWA 1 ppm (2.9 mg/m³)

Long-term exposure limit, 8-hour TWA 0.5 ppm (1.5 mg/m³)

8.2: Exposure controls:

Ensure easy access to shower and eyewash equipment near all work areas.

Personal protective measures as appropriate to quantity used.

Ventilation:	Extraction system / hood. For respirator use cartridge type P3SL (CEN 143)
Hand Protection:	Rubber or plastic gloves.
Eye protection:	Goggles or face shield.
Other measures:	Chemical suit, boots – if handling large quantities.

Section 9 Physical and Chemical Properties:

Appearance:	Greenish-yellow liquid.
Odour:	Irritating chlorine odour.
Molecular Formula:	NaOCl (+ NaCl).
Melting point:	NA
Boiling Point:	Decomposes with heat
Freezing point:	-17°C
Specific gravity	1.25 approx
pH:	About 13.5, strongly alkaline
Vapour pressure:	1.7 kPa @ 20°C
Viscosity:	2.65 mPa.s @ 20°C
Totally miscible with water.	

Section 10 Stability and Reactivity:

10.1 Conditions to avoid

Store in a cool place away from direct sunlight

10.2 Materials to avoid

Contact with acids liberates **toxic chlorine gas**.

Reacts with amines and ammonia to form explosive compounds.

Can react violently in contact with methanol.

Decomposition with evolution of oxygen is accelerated by heat and light, and also by contact with metals, particularly copper, nickel, iron, and monel.

10.3 Hazardous decomposition products:

Thermal decomposition will evolve toxic vapours.

Section 11 Toxicological Information:

Oral	LD50, rat, >1200 mg/kg
Dermal	LD50, rabbit, >10,000 mg/kg
Inhalation:	LC50, rat, >10.5 mg/kg

Inhalation: Mist/droplets are corrosive to the respiratory tract, and will cause a burning sensation in the throat, coughing, and breathing difficulties.

Skin Contact: Causes burns.

Prolonged or repeated contact may cause dermatitis.

Eye Contact: Risk of serious damage to eyes.

May cause severe corneal damage if not irrigated immediately.

Ingestion: If ingested will cause damage to gastrointestinal tract.

No evidence of carcinogenic, mutagenic, or genotoxic effects, and not sensitising.

Section 12 Ecological Information:

Fish	96h-LC50; typical range 0.01 – 0.1 mg active chlorine/l, according to species.
Daphnia:	48h- EC50; typical range 0.01 – 0.1 mg active chlorine/l, according to species.
Bacteria:	Tentative LOEC activated sludge inhibition, 375 ug/l
Algae:	No relevant data, technically unfeasible to perform reliable tests.

Hypochlorite solution is soluble in water, increasing the pH, and is used for water treatment. The product decomposes quickly in water or soil. Does not bioaccumulate.

Material is toxic to aquatic organisms

Section 13 Disposal Considerations:

Disposal should be in accordance with local or state or national legislation.
Do not dispose directly into rivers or drains.
Spills should be contained, then transferred to a closed container.
Contaminated area should be washed with large amounts of water.

Section 14 Transport Information:

Proper Shipping name: HYPOCHLORITE SOLUTION
UN Number: 1791
Hazard Class: 8
Hazard ID No: 80
Classification Code: C9
Packing Group: III
Hazchem: 2X

Marine pollutant: No

Section 15 Regulatory Information:

Sodium hypochlorite solution is classed as **Corrosive**, and **Dangerous for the Environment** for supply, and packaging will carry the following information:

Risk phrases: R31: Contact with acids liberates toxic gas.
R34: Causes burns.
R50: Very toxic to aquatic organisms.

Safety phrases: S28: After contact with skin, wash immediately with plenty of water.
S45: In case of accident, or if you feel unwell, seek medical advice immediately (show the label where possible).
S50: Do not mix with acids.
S61: Avoid release to the environment. Refer to special instructions/Safety Data Sheet

Section 16 Other Information:

This data sheet was prepared in accordance with EC Regulation No. 1907/2006 concerning REACH. Replaces Version 2, March 2008. Since that time, sodium hypochlorite solution (14%) has been designated as Dangerous for the Environment, R50, under Annex VI, so changes have been made to Sections 2, 3, 11, 12, and 15. **Note that this new designation makes a facility storing 100 tons of sodium hypochlorite solution fall under the Control of Major Accident Hazard (COMAH/Soveso) legislation.**

Risk Phrases used in Section 2,
R31: Contact with acids liberates toxic gas.
R34: Causes burns.
R50: Very toxic to aquatic organisms.

Sodium hypochlorite solution can be used as a chemical for the treatment of drinking water, as approved by the European Committee for Standardisation under BS EN 901. Classifications for Transport are taken from the revision proposed as prEN901:2005.

ICL has pre-registered sodium hypochlorite for REACH purposes, and has been given the ECHA Pre-registration Reference Number 05-2114604684-49-0000.

The information given in this data sheet is for guidance only and does not constitute a risk assessment under the COSHH Regulations. It is provided in good faith and to the best of our knowledge, but no warranty, express or implied, is made.