



## 1. DESCRIPTION

**Trade Name:** Sodium Hypochlorite

**Chemical Name:** Sodium hypochlorite solution, Aqua Guard Bleach, Liquid Chlorine Solution, Hypo and Chlorine Bleach, Hypochlorite.

**Application:** Industrial Usage, Laboratory chemicals, Manufacture of substances

**Supplier:** TEAM Chemicals

**Telephone:** +44 (0)207 408 7700 - +98 912 3717539

**Address:** No. 43, Souri St., 43 Ashrafi Esfahani Expressway

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Ingredients

NAME	CAS RN	Proportion
Sodium Hypochlorite	7681-52-9	16%
Water	7732-18-5	84%

## 3. HAZARD IDENTIFICATION

### Emergency Overview:

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the dermis and into the dermis. Spillage and fire water can cause pollution of watercourses. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation.

### Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion, Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive).

**Eye Contact:** Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes.

**Skin Contact:** Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.

**Inhalation:** Strong irritating to mucous membranes in the nose, throat and respiratory tract. Prolonged contact can cause chronic irritation.

**Ingestion:** Corrosive. Can cause severe corrosion of and damage to the gastrointestinal tract (including mouth, throat, and esophagus).

**Irritant** YES **Flammable** NO

**Carcinogenic** NO **Oxidant** NO

**Explosive** NO

**Environmental Hazard** YES

**Corrosive** YES

**(Risk-Phrases) - (Safety-Phrases) -**





## 4. FIRST AID MEASURES

### Eye Contact:

After contact with eye, wash immediately with plenty of water for at least 10 minutes. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

### Skin Contact:

After contact with skin, wash immediately with plenty of water. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

### Inhalation:

move expose person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. If breathing is difficult, have trained person administer oxygen.

**Ingestion:** call poison control center or medical physician immediately for treatment advice. Drink plenty of water. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, obtain medical attention.

## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Non-combustible

**Extinguishing Media:** water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO<sub>2</sub>)

**Fire Fighting:** Do not use a solid water stream as it may scatter and spread fire.

**Fire/Explosion Hazard:** N.A.

**Fire Incompatibility:** In case of fire may be liberated: Hydrogen chloride (HCl), Chlorine (Cl<sub>2</sub>)

**Personal Protection:** As in any fire, wear self-contained breathing apparatus pressure-demand

## 6. ACCIDENTAL RELEASE MEASURES

### Small Spill:

- Clean up all spills immediately
- Wipe up. Absorb with liquid-binding material (sand, etc.)
- Keep people away from and upwind of spill/leak
- Do not touch damaged containers.
- Clean contaminated surface thoroughly

### Large Spill:

Stop leak if without risk. Absorb with liquid-binding material (sand, etc.). Covering of drains are advised.

## 7. HANDLING AND STORAGE

### Handling Precautions:

Handle and open container with care. Do not get this material in your eyes, on your skin, or on your clothing. Wear personal protective equipment. Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray.

### Storage Precautions:

Use care in handling/storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid release to the environment. Refer to National Fire Protection Association (NFPA) 430, Code for the Storage of Solid and Liquid Oxidizers



## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### EXPOSURE Limits

sodium hydroxide  
CAS No. 1310-732  
STEL (ppm)=2

### ECOTOXICOLOGICAL INFORMATION:

Toxic to aquatic life. 96-hour LC50: fathead minnows: 0.090-5.9 mg/L, bluegill sunfish: 0.10-2.48 mg/L, shore crab: 1.418 mg/L, grass shrimp: 52.0 mg/L, scud: 0.145-4.0 mg/L, water flea

**ENVIRONMENTAL EFFECTS:** Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers. May be an aesthetic nuisance due to color.

### PERSONAL PROTECTION

Use of protective coveralls and long sleeves is recommended.  
Use of impervious boots are recommended.  
Protective gloves.  
If ventilation is not sufficient to effectively prevent buildup of aerosols or mists, appropriate NIOSH/MSHA respiratory protection must be provided.

### ENGINEERING CONTROLS

Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product. When using do not smoke. Ensure that eyewash stations and safety showers are proximal to the work-station location.

## 9. PHYSICAL & CHEMICAL PROPERTIES

**Physical state and appearance:** Liquid  
**Color:** light yellow to light green  
**Odor:** Chlorine odor  
**pH (1% solution):** 12-13 (20°C)

**Melting/Freezing Point:** -28.9 °C  
**Flash Point:** Not applicable  
**Specific Gravity:** 1.22-1.26  
**Miscibility:** completely miscible with water

## 10. STABILITY & REACTIVITY

**Chemical Stability:** May cause decomposition by long-term light influence.  
**Conditions to Avoid:** Keep away from heat. Decomposition takes place from temperatures above: >111 °C.  
**Materials to Avoid:** acids. Organic materials, powdered metals  
**Special Remarks on Reactivity:** -  
**Special Remarks on Corrosivity:** Substance or mixture corrosive to metals.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity:

Acute oral toxicity : LD50: 1,100 mg/kg  
Species: Rat  
Acute dermal toxicity : LC50 : 20.000 mg/kg  
Species: Rabbit

**Skin corrosion/irritation** Causes severe skin burns and eye damage.  
**Serious eye damage/eye irritation** Causes serious eye damage.  
**Aspiration hazard** Shall not be classified as presenting an aspiration hazard.



## 12. ECOLOGICAL INFORMATION

### Product information:

#### Aquatic toxicity (acute) of components of the mixture

aquatic invertebrates: EC50=35 microgram/l [Exposure time= 48 hr]

l algae: ErC50=0.036 microgram/l [Exposure time= 72 hr]

water flea (Daphnia) : EC50= 40.4 microgram/l [Exposure time= 48 hr]

#### Products of Biodegradation:

The methods for determining the biological degradability are not applicable to inorganic substances.

**Log KOW**=-3,42 (pH value:12,5, 20 °C)

## 13. DISPOSAL CONSIDERATION

### DISPOSAL METHODS:

Dispose of waste material according to Local, State, and Provincial Environmental Regulations. It is a dangerous waste; only packaging which is approved (e.g. acc. to ADR) may be used.

## 14. TRANSPORT INFORMATION

### U.S. DOT Shipping Description:

#### 14.1 UN number

**ADR** : UN 1791

**RID** : UN 1791

**IMDG-Code** : UN 1791

#### 14.2 Proper shipping name

**ADR** : HYPOCHLORITE SOLUTION

**RID** : HYPOCHLORITE SOLUTION

**IMDG-Code** : HYPOCHLORITE SOLUTION

#### 14.3 Transport hazard class

**ADR** : 8

**RID** : 8

**IMDG-Code** : 8

#### 14.4 Packing group

**ADR/RID/ADN** Packing group : II

**IMDG-Code** Packing group : II



## 15. REGULATORY INFORMATION

### Classification:

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Suppliers' Material Safety Data Sheets and EPA Labeling Requirements  
Olin and OxyChem Sodium Hypochlorite Handbook  
Chlorine Institute Sodium Hypochlorite Pamphlet #96  
Chlorine Institute Product Stewardship Bulletins for Sodium Hypochlorite

### National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

## 16. ADDITIONAL INFORMATION

### Reason(s) for Issue:

3 Yearly Revised Primary MSDS  
Update in Toxicological Information  
Update in Ecological Information

List of relevant phrases: H290-H314-H318-H400-H410-H411

This MSDS summaries to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. TEAM cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.