



MATERIAL SAFETY DATA SHEET  
Sodium Hypochlorite Solution

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Sodium Hypochlorite Solution  
**Catalog Numbers:** S/5040/17, S/5040/21, S/5040/26  
**Synonyms:** None.  
**Company Identification:** Fisher Scientific UK  
 Bishop Meadow Road, Loughborough  
 Leics. LE11 5RG  
**For information in Europe, call:** (01509) 231166  
**Emergency Number, Europe:** 01509 231166

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
1310-73-2	Sodium hydroxide	0.5	215-185-5	C	35
7681-52-9	Sodium hypochlorite	15.0	231-668-3		
7732-18-5	Water	Balance	231-791-2		

Text for R-phrases: see Section 16

**Hazard Symbols:** C



**Risk Phrases:** 31 34

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Contact with acids liberates toxic gas. Causes burns. Corrosive.*

#### Potential Health Effects

- Eye:** Causes eye burns. May cause irreversible eye injury. Contact with liquid is corrosive to the eyes and causes severe burns.
- Skin:** May cause severe irritation and possible burns.
- Ingestion:** May cause severe and permanent damage to the digestive tract. Causes severe digestive tract burns with abdominal pain, vomiting, and possible death.
- Inhalation:** Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract. May cause pulmonary edema and severe respiratory disturbances.
- Chronic:** Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

### Section 4 - First Aid Measures

**Eyes:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

- Skin:** Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
- Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:**

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

**Storage:** Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Exposure Limits**

CAS# 1310-73-2:

United Kingdom, WEL - STEL: 2 mg/m<sup>3</sup> STEL

United States OSHA: 2 mg/m<sup>3</sup> TWA

Belgium - TWA: 2 mg/m<sup>3</sup> VLE

France - VME: 2 mg/m<sup>3</sup> VME

Germany: 2 mg/m<sup>3</sup> TWA (inhalable fraction)

Japan: 2 mg/m<sup>3</sup> Ceiling

Malaysia: 2 mg/m<sup>3</sup> Ceiling

Spain: 2 mg/m<sup>3</sup> VLA-EC

CAS# 7681-52-9:

CAS# 7732-18-5:

### Personal Protective Equipment

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Color:** clear yellow

**Odor:** Chlorine odor

**pH:** Not available

**Vapor Pressure:** Not available

**Viscosity:** Not available

**Boiling Point:** Not available

**Freezing/Melting Point:** Not available

**Autoignition Temperature:** Not applicable

**Flash Point:** Not applicable.

**Explosion Limits: Lower:** Not available

**Explosion Limits: Upper:** Not available

**Decomposition Temperature:** Not available

**Solubility in water:** Soluble in water.

**Specific Gravity/Density:** 1.1

**Molecular Formula:** Solution

**Molecular Weight:** 0

### Section 10 - Stability and Reactivity

**Chemical Stability:** Sodium hypochlorite solutions decompose slowly at normal temperatures releasing low concentrations of corrosive chlorine gas. Decomposition is influenced by temperature, concentration, pH, ionic strength, exposure to light and the presence of metals.

**Conditions to Avoid:** Incompatible materials.

**Incompatibilities with Other Materials** Metals, strong reducing agents, strong acids, amines, ammonia, methanol, ammonium salts, phenylacetonitrile, formic acid, combustible materials.

**Hazardous Decomposition Products** Chlorine, sodium oxide.

**Hazardous Polymerization** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:** CAS# 1310-73-2: WB4900000  
CAS# 7681-52-9: NH3486300  
CAS# 7732-18-5: ZC0110000

**LD50/LC50:** RTECS:  
**CAS# 1310-73-2:** Draize test, rabbit, eye: 400 ug Mild;

Draize test, rabbit, eye: 1% Severe;  
Draize test, rabbit, eye: 50 ug/24H Severe;  
Draize test, rabbit, eye: 1 mg/24H Severe;  
Draize test, rabbit, skin: 500 mg/24H Severe;

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RTECS:

**CAS# 7681-52-9:** Draize test, rabbit, eye: 10 mg Moderate;  
Draize test, rabbit, eye: 1.31 mg Mild;  
Oral, mouse: LD50 = 5800 mg/kg;

.  
RTECS:

**CAS# 7732-18-5:** Oral, rat: LD50 = >90 mL/kg;

**Carcinogenicity:** Sodium hydroxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Sodium hypochlorite - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** See actual entry in RTECS for complete information.

### Section 12 - Ecological Information

**Other:** No information available.

### Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

### Section 14 - Transport Information

	<b>IATA</b>	<b>IMO</b>	<b>RID/ADR</b>
<b>Shipping Name:</b>	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION	HYPOCHLORITE SOLUTION
<b>Hazard Class:</b>	8	8	8
<b>UN Number:</b>	1791	1791	1791
<b>Packing Group:</b>	III	III	III

USA RQ: CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ

USA RQ: CAS# 7681-52-9: 100 lb final RQ; 45.4 kg final RQ

### Section 15 - Regulatory Information

#### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

Safety Phrases:

S 28A After contact with skin, wash immediately with plenty of water.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 50A Do not mix with acids.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 1310-73-2: 1

CAS# 7681-52-9: 2

CAS# 7732-18-5: Not available

Canada

CAS# 1310-73-2 is listed on Canada's DSL List

CAS# 7681-52-9 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

**US Federal**

TSCA

CAS# 1310-73-2 is listed on the TSCA Inventory.

CAS# 7681-52-9 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

**Section 16 - Other Information**

**Text for R-phrases from Section 2**

R 35 Causes severe burns.

**MSDS Creation Date:** 2/19/1999

**Revision #5 Date** 7/06/2005

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