1. Identification

Product identifier: Sodium Hypochlorite, 17 - 30%

Other means of identification:
- SDS number: 10000032, 10000077

Recommended use: Swimming pool chlorinator, hard surface cleaner, mildecide, Water treatment chemical, Biocides, bleach solutions and bleach fixer solutions

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:

Company name: Olin Chlor Alkali Products
Address: 490 Stuart Road, NE
Cleveland, TN 37312

Company name: Pioneer Americas, LLC (d/b/a Olin Chlor Alkali Products)
Address: 490 Stuart Road, NE
Cleveland, TN 37312

Company name: Olin Canada ULC (d/b/a Olin Chlor Alkali Products)
Address: 2020 Robert-Bourassa Blvd., Suite 2190
Montreal, Quebec H3A 2A5

General Information:
- Telephone: (888) 658-6SDS (737)
- Website: olinchloralkali.com
- Contact person: ORC SDS Control Group
- Emergency phone number: CHEMTREC
  - US: 1-800-424-9300
  - Canada: 1-800-567-7455

2. Hazard(s) identification

Physical hazards: Corrosive to metals - Category 1
Health hazards:
- Skin corrosion/irritation - Category 1
- Serious eye damage/eye irritation - Category 1
- Specific target organ toxicity, single exposure - Category 3 respiratory tract irritation

Environmental hazards:
- Hazardous to the aquatic environment, acute hazard - Category 1
- Hazardous to the aquatic environment, long-term hazard - Category 2

OSHA defined hazards: Not classified.

Label elements:
- Signal word: Danger
- Hazard statement: May be corrosive to metals. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life with long lasting effects.
Precautionary statement

Prevention
Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Keep only in original container. Avoid release to the environment.

Response
If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage. Collect spillage.

Storage
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.

Disposal
Dispose of contents/container in accordance with local/region/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
Contact with acids liberates toxic gas.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td>7681-52-9</td>
<td>17-30</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>1-5</td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact
Take off immediately all contaminated clothing. Wash off IMMEDIATELY with plenty of water for at least 15-20 minutes. Get medical attention immediately. Wash contaminated clothing before reuse. Call a physician or poison control center immediately.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion
call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed
Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Indication of immediate medical attention and special treatment needed
Treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire. Do not use dry extinguishing media that contains ammonium compounds.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Absorb spillage to prevent material damage. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see Section 8 of the SDS.
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

Do not discharge into drains, water courses or onto the ground.

Wear appropriate personal protective equipment. Do not get in eyes, on skin, on clothing. Chemical attack increases with solution strength. Use with adequate ventilation. Observe good industrial hygiene practices. Do not apply heat or direct sunlight. Temperature and product concentration affect product quality and decomposition rates.

Keep container tightly closed. Store in a cool and well-ventilated place. Store in a corrosive resistant container. Consult container manufacturer for additional guidance. Store away from and do not mix with incompatible materials such as acids, oxidizers, organics, reducing agents, and all metals except titanium. For frozen product, contact manufacturer for guidance.

Biological limit values
No biological exposure limits noted for the ingredient(s).

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Wear goggles (or safety glasses with side shields) and a face shield. Wear a full-face respirator, if needed. PPE requirements should match type and amount used as determined by the end users PPE hazard assessment.

Wear appropriate chemical resistant clothing. Reports indicate that sodium hypochlorite can react with various fabrics usually increasing with concentration. Reactions vary significantly depending on strength of chemical, material, fabric treatment and color of dyes. FRC treated cotton has a stronger response than plain cotton. Poly blend fabrics and meta aramid fabric have a weaker response than natural fibers. Contact the Personal Protective Equipment manufacturer for specific information about their products.
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Respiratory protection

Wear appropriate thermal protective clothing, when necessary.

Thermal hazards

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Liquid.
Color Yellow to greenish.
Odor Pungent.
Odor threshold 0.9 mg/m³
pH 12 - 14 (25 °C/77 °F)
Melting point/freezing point -17 °F (-27.22 °C) (16% solution)
Initial boiling point and boiling range Not available.
Flash point Not applicable.
Evaporation rate No data available
Flammability (solid, gas) Not available.
Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.
Flammability limit - lower (%) temperature Not applicable.
Flammability limit - upper (%) Not available.
Flammability limit - upper (%) temperature Not applicable.
Explosive limit - lower (%) Not available.
Explosive limit - upper (%) Not available.
Vapor pressure 12 mm Hg (12.5% solution)
Vapor density Not available.
Relative density 1.228 g/ml (at 20.6%*)
Solubility(ies)

Solubility (water) Completely miscible
Partition coefficient (n-octanol/water) Not available.
Auto-ignition temperature Not applicable.
Decomposition temperature Not available.
Viscosity Not available.
Other information

* Density at 20.6% is approximately 1.228 g/ mL and will content. Density varies in an approximately linear relationship with strength when manufactured. The relationship between density and strength will change with time due to product decomposition.

Bulk density Not applicable.
Molecular weight 74.5 g/mol

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Material is stable under normal conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.

Sodium Hypochlorite, 17 - 30%

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Contact with incompatible materials. Avoid ultraviolet (UV) light sources. Excessive heat. Reacts violently with strong acids. Acid contact will produce chlorine gas. Amine contact will produce chloramines.

Incompatible materials

Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

**Inhalation**
Vapors and spray mist may irritate throat and respiratory system and cause coughing.

**Skin contact**
Causes skin burns.

**Eye contact**
Causes eye burns.

**Ingestion**
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Symptoms related to the physical, chemical and toxicological characteristics
Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

12. Ecological information

Ecotoxicity
Very toxic to aquatic life with long lasting effects.
Sodium Hypochlorite, 17 - 30%

### Aquatic

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>2.9 mg/l, 96 hours</td>
</tr>
<tr>
<td>Bluegill (Lepomis macrochirus)</td>
<td>2.9 mg/l, 96 hours</td>
</tr>
<tr>
<td>Oncorhynchus mykiss</td>
<td>0.9 mg/l, 0.5 hours</td>
</tr>
<tr>
<td>Pimephales promelas</td>
<td>1.4 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
No data is available on the degradability of this product.

**Bioaccumulative potential**
No data available for this product.

**Mobility in soil**
Not available.

**Other adverse effects**
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### 13. Disposal considerations

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

**DOT**

- **UN number**: UN1791
- **UN proper shipping name**: Hypochlorite solutions
- **Transport hazard class(es)**
  - **Class**: 8
  - **Subsidiary risk**: -
  - **Label(s)**: 8
- **Packing group**: III
- **Special precautions for user**: Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.
- **Special provisions**: IB3, N34, T4, TP2, TP24
- **Packaging exceptions**: 154
- **Packaging non bulk**: 203
- **Packaging bulk**: 241

**IATA**

- **UN number**: UN1791
- **UN proper shipping name**: Hypochlorite solution
- **Transport hazard class(es)**
  - **Class**: 8
  - **Subsidiary risk**: -
  - **Label(s)**: 8
- **Packing group**: III
- **Environmental hazards**: Yes
- **ERG Code**: 8L
- **Special precautions for user**: Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

- **UN number**: UN1791
- **UN proper shipping name**: HYPOCHLORITE SOLUTION
- **Transport hazard class(es)**
  - **Class**: 8
Subsidiary risk -
Label(s) 8
Packing group III
Environmental hazards
Marine pollutant Yes
EmS F-A, S-B
Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations
This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.
CERCLA Hazardous Substance: Sodium Hypochlorite, CAS # 7681-52-9, RQ = 100 lbs
CERCLA Hazardous Substance: Sodium Hydroxide, CAS # 1310-73-2, RQ = 1000 lbs.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Sodium hydroxide (CAS 1310-73-2) LISTED
Sodium hypochlorite (CAS 7681-52-9) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance
Not listed.
SARA 311/312 Hazardous chemical
Yes
SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations
US. Massachusetts RTK - Substance List
Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. New Jersey Worker and Community Right-to-Know Act
Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. Pennsylvania Worker and Community Right-to-Know Law
Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. Rhode Island RTK
Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

**US. California Proposition 65**
This product is not listed, but it may contain elements known to the State of California to cause cancer or reproductive toxicity as listed under Proposition 65 Safe Drinking Water and Toxic Enforcement Act. For additional information, contact Olin Technical Services (800-299-6546).

### International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

- **Issue date**: 28-February-2014
- **Revision date**: 08-March-2016
- **Version #**: 04
- **HMIS® ratings**
  - Health: 3
  - Flammability: 0
  - Physical hazard: 0

**NFPA ratings**

- Health: 3
- Flammability: 0
- Physical hazard: 0

**List of abbreviations**

- LD50: Lethal Dose, 50%.
- LC50: Lethal Concentration, 50%.
- EC50: Effective Concentration, 50%.
- TWA: Time weighted average.

### References

- EPA: AQUIRE database
- HSDB® - Hazardous Substances Data Bank
- US. IARC Monographs on Occupational Exposures to Chemical Agents
- IARC Monographs. Overall Evaluation of Carcinogenicity
- ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

### Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.