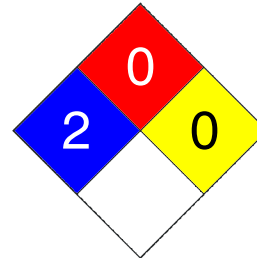


1. Product and Company Identification

Product Name Sodium Hypochlorite Solution 12%
CAS # Mixture
Product use Odor control, laundry, water, sewage and industrial waste treatment
Manufacturer SODROX Chemicals Ltd.
 7040 Wellington Road 124, R.R. #6
 Guelph, ON N1H 6J3 CA
 Business Phone: 519-837-2330
 Fax: 519-837-3300
 Emergency Phone: 1-800-363-6824

| LEGEND HMIS/NFPA | |
|---------------------|---|
| Severe | 4 |
| Serious | 3 |
| Moderate | 2 |
| Slight | 1 |
| Minimal | 0 |

| | |
|---------------------|-----|
| Health | / 2 |
| Flammability | 0 |
| Physical Hazard | 0 |
| Personal Protection | C |



2. Hazards Identification

Emergency overview DANGER -- CORROSIVE
 May cause chemical burns to eyes and skin.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Causes chemical burns. May cause blindness.

Skin May cause chemical burns.

Inhalation May cause respiratory tract irritation or chemical burns.

Ingestion Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Target organs Eyes. Skin.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms The product causes burns of eyes, skin and mucous membranes.

3. Composition / Information on Ingredients

| Ingredient(s) | CAS # | Percent |
|---------------------|-----------|---------|
| Sodium hypochlorite | 7681-52-9 | 7 - 13 |

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician Symptoms may be delayed.

General advice

If you feel unwell, seek medical advice (show the label where possible). 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. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

| | |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammable properties | Not flammable by WHMIS/OSHA criteria. |
| Extinguishing media | |
| Suitable extinguishing media | Treat for surrounding material. |
| Unsuitable extinguishing media | DO NOT use dry chemical fire extinguishing agents containing ammonium compounds (such as some A:B:C agents). An explosive compound can be formed. |
| Protection of firefighters | |
| Specific hazards arising from the chemical | Not available |
| Protective equipment for firefighters | Firefighters should wear full protective clothing including self contained breathing apparatus. |
| Hazardous combustion products | May include and are not limited to: Oxygen. Chlorine gas. Hydrogen chloride. Disodium oxide. |
| Explosion data | |
| Sensitivity to mechanical impact | Not sensitive. |
| Sensitivity to static discharge | Sodium hypochlorite solutions will not accumulate static charge. These solutions do not burn therefore they will not be ignited by a static discharge. |

6. Accidental Release Measures

| | |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions | Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. |
| Methods for containment | Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas. |
| Methods for cleaning up | Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use. |

7. Handling and Storage

| | |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handling | Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing. |
| Storage | Keep out of the reach of children. Store in a closed container away from incompatible materials. Use polyethylene, polypropylene, FRP or PVC containers. |

8. Exposure Controls / Personal Protection

| | |
|--------------------------------------|------------------------------------------------------------------------------------|
| Exposure limits | |
| Ingredient(s) | Exposure Limits |
| Sodium hypochlorite | ACGIH-TLV Not established OSHA-PEL Not established |
| Engineering controls | General ventilation normally adequate. |
| Personal protective equipment | |
| Eye / face protection | Wear chemical goggles. Use a face shield if splashing is possible. |
| Hand protection | Rubber gloves. Confirm with a reputable supplier first. |
| Skin and body protection | As required by employer code. Use of an impervious apron is recommended. |
| Respiratory protection | Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. |

General hygiene considerations Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

| | |
|-------------------------------------------------------|-----------------------------|
| Appearance | Clear. |
| Color | Lime - Yellow |
| Form | Liquid |
| Odor | Chlorine |
| Odor threshold | Not available |
| Physical state | Liquid |
| pH | > 12.8 (100%) |
| Melting point | Not available |
| Freezing point | Not available |
| Boiling point | 105 °C (221.00 °F) |
| Flash point | None |
| Pour point | Not available |
| Evaporation rate | Not available |
| Flammability limits in air, lower, % by volume | Not applicable |
| Flammability limits in air, upper, % by volume | Not applicable |
| Vapor pressure | 22 mmHg @ 20°C (68°C) |
| Vapor density | Not available |
| Specific gravity | 1.17 (H ₂ O = 1) |
| Octanol/water coefficient | Not available |
| Solubility (H₂O) | Soluble |
| Auto-ignition temperature | Not applicable |
| VOC (Weight %) | Not available |
| Viscosity | Water thin |
| Percent volatile | Not available |

10. Stability and Reactivity

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chemical stability | Sodium hypochlorite solutions decompose slowly at normal temperatures releasing low concentrations of corrosive chlorine gas. |
| Conditions to avoid | Do not mix with other chemicals. |
| Incompatible materials | Ammonia. Ammonium salts. Strong acids. Caustics. Urea. Aromatic amines. Primary amines. Methanol. Metals. Combustible materials. Organic materials. Reducing agents. |
| Hazardous decomposition products | May include and are not limited to: Oxygen. Chlorine gas. Hydrogen chloride. Disodium oxide. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |

11. Toxicological Information

Component analysis - LC50

| Ingredient(s) | LC50 |
|---------------------|------------------------------|
| Sodium hypochlorite | > 5250 mg/m ³ rat |

Component analysis - Oral LD50

| Ingredient(s) | LD50 |
|---------------------|----------------------------------|
| Sodium hypochlorite | 8200 mg/kg rat; 5800 mg/kg mouse |

Effects of acute exposure

| | |
|-------------------|-----------------------------------------------------------|
| Eye | Causes chemical burns. May cause blindness. |
| Skin | May cause chemical burns. |
| Inhalation | May cause respiratory tract irritation or chemical burns. |

| | |
|------------------------------------------|------------------------------------------------------------------------------|
| Ingestion | Harmful if swallowed. May cause chemical burns to mouth, throat and stomach. |
| Sensitization | Non-hazardous by WHMIS/OSHA criteria. |
| Chronic effects | Non-hazardous by WHMIS/OSHA criteria. |
| Carcinogenicity | Non-hazardous by WHMIS/OSHA criteria. |
| IARC - Group 3 (Not Classifiable) | |
| Sodium hypochlorite | 7681-52-9 Monograph 52 [1991] (listed under Hypochlorite salts) |
| Mutagenicity | Non-hazardous by WHMIS/OSHA criteria. |
| Reproductive effects | Non-hazardous by WHMIS/OSHA criteria. |
| Teratogenicity | Non-hazardous by WHMIS/OSHA criteria. |
| Synergistic Materials | Not available |

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae Data

Sodium hypochlorite 7681-52-9 24 Hr EC50 Skeletonema costatum: 0.095 mg/L

Ecotoxicity - Freshwater Fish Species Data

Sodium hypochlorite 7681-52-9 96 Hr LC50 Pimephales promelas: 0.06-0.11 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 4.5-7.6 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 0.4-0.8 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 0.28-1 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.05-0.771 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: >0.03-<0.19 mg/L [semi-static]; 96 Hr LC50 Oncorhynchus mykiss: 0.18-0.22 mg/L [static]

Ecotoxicity - Water Flea Data

Sodium hypochlorite 7681-52-9 96 Hr EC50 Daphnia magna: 2.1 mg/L

Environmental effects Harmful to aquatic life.

Aquatic toxicity Not available

Persistence / degradability Not available

Bioaccumulation / accumulation Not available

Partition coefficient Not available

Mobility in environmental media Not available

Chemical fate information Not available

Other adverse effects Not available

13. Disposal Considerations

Waste codes Not available

Disposal instructions Review federal, state/provincial, and local government requirements prior to disposal. Do not dispose of waste with normal garbage or to sewer systems.

Waste from residues / unused products Not available

Contaminated packaging Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

Proper shipping name Hypochlorite solutions

Hazard class 8

UN number 1791

Packing group III

Additional information:

Special provisions IB3, N34, T4, TP2, TP24

Packaging exceptions 154



Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

Proper shipping name HYPOCHLORITE SOLUTION
Hazard class 8
UN number 1791
Packing group III



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

Sodium hypochlorite 7681-52-9 1 %

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.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Sodium hypochlorite 7681-52-9 100 Lb final RQ; 45.4 kg final RQ

U.S. - CWA (Clean Water Act) - Hazardous Substances

Sodium hypochlorite 7681-52-9 Present

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

CERCLA (Superfund) reportable quantity

Sodium hypochlorite: 100.0000

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

Section 302 extremely hazardous substance No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

WHMIS status Controlled

WHMIS classification Class E - Corrosive Material

WHMIS labeling



State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Sodium hypochlorite 7681-52-9 Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Sodium hypochlorite 7681-52-9 100 Lb final RQ; 45.4 kg final RQ

U.S. - Massachusetts - Right To Know List

Sodium hypochlorite 7681-52-9 Present

U.S. - Minnesota - Hazardous Substance List

Sodium hypochlorite 7681-52-9 Present

U.S. - New Jersey - Right to Know Hazardous Substance List

Sodium hypochlorite 7681-52-9 sn 1707

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Sodium hypochlorite 7681-52-9 100 Lb RQ (air); 100 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Sodium hypochlorite 7681-52-9 Environmental hazard

Inventory name

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|-----------------------------------------------|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

Dell Tech Laboratories Ltd. (519) 858-5021

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.