

WHMIS 	TDG Road/Rail 
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Health Hazard	* 3
Fire Hazard	0
Reactivity	0
Personal Protection	C

This MSDS is provided as information only. This product is not WHMIS regulated. This product is regulated under CCCR regulation.

1. Product and company identification

Product name : LIQUI-SHOCK Date of issue (yyyy/mm/dd) : 2014-05-26. Supplier : Clearwater CP 25 Victoriaville, Québec G6P 6S4	Code : 30-13800 Material uses : Consumer products: Pool & Spa water treatment product Manufacturer : Manufactured for: Clearwater C.P. 25 Victoriaville, Quebec G6P 6S4
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In case of emergency Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)

2. Hazards identification

Potential hazards described in this section are not expected when manufacturer's direction for use and proper security measures are observed.

Physical state : Liquid. [Transparent liquid. **Odor** : Chlorine]

Emergency overview : **DANGER!**
 Corrosive to the eyes, skin, respiratory system and digestive tract. Causes burns. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : Corrosive to the respiratory system. Not a usual way of absorption. Do not breathe dust/fume/gas/mist/vapors/spray.

Ingestion : Corrosive to the digestive tract. Causes burns.

Skin : Corrosive to the skin. Causes burns.

Eyes : Corrosive to eyes. Causes burns.

See toxicological information (Section 11) for more details.

3. Composition/information on ingredients

Name	CAS number	% (w/w)
Sodium hypochlorite solution Cl active	7681-52-9	10 - 30

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

5. Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
halogenated compounds
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

- Handling** : Put on suggested personal protective equipment when handling the product. Avoid contact with skin and eyes. Do not ingest. This product is formulated for commercial, institutional and industrial uses only.
- Storage** : Store in cool ventilated place. Keep container tightly closed when product is stored. Protect from freezing. Keep out of reach of children.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
Sodium hypochlorite solution Cl active	US AIHA 10/2011	-	-	-	-	2	-	-	-	-	

Consult local authorities for acceptable exposure limits.

- Engineering measures** : Général room ventilation is adequate for the use of this product.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

- Respiratory** : No specific protective equipment suggested
- Hands** : It is suggested to use chemical impervious protective gloves when using this product
- Eyes** : It suggested to wear safety glasses when handling or using chemical products.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: No special equipment required

9. Physical and chemical properties

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|--|--|---|
| Physical state : Liquid. [Transparent liquid.] | Molecular formula : Not applicable. | Flammable limits : Not available. |
| Color : Yellow. | Molecular weight : Not applicable. | Burning rate : Not applicable. |
| Odor : Chlorine | Vapor pressure : Not available. | Burning time : Not applicable. |
| Relative density : 1.172 | Vapor density : Not available. | Critical temperature : Not available. |
| pH : 12.3 | Volatility : Not available. | Auto-ignition temperature : Not available. |
| Viscosity : Not available. | Evaporation rate : Not available. | Flash point : [Product does not sustain combustion.] |
| Odor threshold : Not available. | Ionicity (in water) : Non-ionic. | Dispersibility properties : Not available. |
| Solubility : Easily soluble in the following materials: cold water and hot water. | | |
| Melting/freezing point : Not available. | | Boiling/condensation point : Not available. |

10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: acids Non-reactive or compatible with the following materials: oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

The symptoms, hazards and situations described in this section are not expected when manufacturer's direction for use, proper security measures and given professional exposure limits are correctly followed.

Potential chronic health effects

Chronic effects	:
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: Contains material which may cause damage to the following organs: mucous membranes, throat.

Over-exposure signs/symptoms

Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	: Adverse symptoms may include the following: stomach pains
Skin	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
Eyes	: Adverse symptoms may include the following: pain watering redness

Medical conditions aggravated by over-exposure :

Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium hypochlorite solution Cl active	LC50 Inhalation Gas.	Rat	>10500 mg/m ³	1 hours
	LD50 Oral	Rat	8910 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sodium hypochlorite solution Cl active	Eyes - Mild irritant	Rabbit	-	1.31 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	10 milligrams	-

Carcinogenicity Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Sodium hypochlorite solution Cl active	-	3	-	-	-	-

12. Ecological information

Ecotoxicity : Readily biodegradable

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Exposure	Species
Sodium hypochlorite solution Cl active	-	Acute EC50 46000 µg/l Marine water	4 days	Algae - Red algae - Gracilaria tenuistipitata
	US EPA	Acute EC50 0.04 ppm Fresh water	48 hours	Daphnia - Water flea - Daphnia magna
	-	Acute LC50 56400 to 77400 µg/l Marine water	48 hours	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio
	-	Acute LC50 70 µg/l Fresh water	96 hours	Fish - Channel catfish - Ictalurus punctatus - Fingerling
	-	Chronic NOEC 10000 µg/l Marine water	4 days	Algae - Red algae - Gracilaria tenuistipitata
	-	Chronic NOEC 0.1 ppm Fresh water	30 days	Fish - common carp - Cyprinus carpio - Young

Bioconcentration factor : Not available.

Toxicity of the products of biodegradation : The products of biodegradation are as toxic as the original product.

13. Disposal considerations



Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste stream : Not available.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	1791	Corrosive liquid N.O.S. RQ (Sodium hypochlorite solution Cl active)	8	III		
TDG Classification	1791	Corrosive liquid N.O.S. (Sodium hypochlorite solution Cl active)	8	III		Special provisions Limited quantity index 5L

PG* : Packing group

15. Regulatory information

United States inventory (TSCA 8b)

WHMIS (Canada)

Canadian lists

: All components are listed or exempted.
 : Class E: Corrosive material
 : **CEPA Toxic substances**: None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: None of the components are listed.
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory

Other certification

: At least one component is not listed.

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.


16. Other information on the product

Label requirements : CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS.

Date of printing (YYYY-MM-DD) : 2014-05-26.

Date of issue (YYYY-MM-DD) : 2014-05-26.

Note: MSDS are valid for a 3 years period after the date of issue

 Indicates information that has changed from previously issued version.

MSDS prepared by:
 QA and Documentation Department
 Manufactured for:
 Clearwater
 C.P. 25
 Victoriaville, Quebec
 G6P 6S4

Notice to reader

There are potential hazards to people and goods associated with the use of this product which are detailed in the present Material Safety Data Sheet (MSDS). To minimize potential hazards associated with this product it is of users responsibility to conform the directions for use and all other instructions provided in the Material Safety Data Sheet (MSDS) of this product. The manufacturer, distributors and suppliers of this product are exonerating themselves and consequently shall not be liable for any prejudice or damage of any kind, resulting from the use of this product which may not be in accordance with the directions for use or all the instructions provided in the present Material Safety Data Sheet (MSDS) or resulting from an unadvised use of the present product..

Emergency phone: CANUTEC (613) 996-6666 (Collect calls accepted)