SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Substance, liquid (compressed gas)
Product Name: Chlorine
CAS-No.: 7782-50-5

Intended Use of the Product

Pulp bleaching, water treatment, manufacture of plastics, organic and inorganic chlorides, refrigerants and pharmaceuticals.

Name, Address, and Telephone of the Responsible Party

Manufacturer
CHEMTRADE LOGISTICS INC.
155 Gordon Baker Road
Suite 300
Toronto, Ontario M2H 3N5
For SDS Info: (416) 496-5856
www.chemtradelogistics.com

Emergency Telephone Number

Emergency Number : Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300
INTERNATIONAL: +1-703-741-5970
Chemtrade Emergency Contact: (866) 416-4404
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification

Ox. Gas 1 H270
Press. Gas (Liq.) H280
Acute Tox. 2 H330
Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE3 H335
Aquatic Acute 1 H400

Full text of hazard classes and H-statements : see section 16

Label Elements

GHS Labeling

Hazard Pictograms :

Signal Word : Danger
Hazard Statements :
H270 - May cause or intensify fire; oxidizer.
H280 - Contains gas under pressure; may explode if heated.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H330 – Fatal if inhaled.
H335 – May cause respiratory irritation
H400 - Very toxic to aquatic life.

Precautionary Statements :
P220 - Keep away from clothing and other combustible materials.
P244 - Keep valves and fittings free from oil and grease.
P260 - Do not breathe gas.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
Chlorine
Safety Data Sheet

P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P284 - [In case of inadequate ventilation] wear respiratory protection.
P301+P330+P311 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P352+P362+P363 - IF ON SKIN (or hair): Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse.
P304+P340+P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P320 - Specific treatment is urgent (see section 4 on this SDS).
P370+P376 - In case of fire: Stop leak if safe to do so.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410 – Protect from sunlight.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Other Hazards
Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

Unknown acute toxicity
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Product Identifier</th>
<th>%*</th>
<th>GHS Ingredient Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine</td>
<td>(CAS-No.) 7782-50-5</td>
<td>&gt; 99</td>
<td>Ox. Gas 1, H270 \ Press. Gas (Liq.), H280 \ Acute Tox. 2 H330 \ Skin Irrit.. 2, H315 \ Eye Irrit. 2, H319 \ STOT SE 3, H335 \ Aquatic Acute 1, H400</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

Description of First-aid Measures
General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

Inhalation: First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Immediately call a POISON CENTER or doctor/physician.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.
Most Important Symptoms and Effects Both Acute and Delayed

General: May cause frostbite on contact with the liquid. Fatal if inhaled. Causes severe skin burns and eye damage.

Inhalation: Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. Corrosive to the respiratory tract.

Skin Contact: Causes severe irritation which will progress to chemical burns. Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva. Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Symptoms May be Delayed. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire. Dry chemical, foam, carbon dioxide.

Unsuitable Extinguishing Media: Direct water spray. Reacts with water. No water should be sprayed onto a leaking cylinder as spraying of water onto it promotes corrosion at the point of leakage as well as increasing the evaporation rate of chlorine.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Contains an oxidizing material which may accelerate fire.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries. Container may explode in heat of fire.

Reactivity: Oxidizer: increases the burning rate of combustible materials. May be corrosive to metals.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Evacuate area. In case of fire or explosion, do not breathe fumes. Cylinder can burst violently when heated due to excess pressure build up. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: None known.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Keep away from combustible material. Do not get in eyes, on skin, or on clothing. Do not breathe gas.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).


For Emergency Personnel

For response to chlorine gas it is recommended to use as a minimum level "B" protection that is compatible to chlorine. For liquid spills it is recommended to utilize as a minimum enhanced level "B" (Enhanced Level "B" is the addition of a splash hood)/ Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Responders can reference Chlorine Institute pamphlet #65 on PPE.

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Evacuate unnecessary personnel, isolate, and ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.
**Methods and Materials for Containment and Cleaning Up**

**For Containment:** Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

**Methods for Cleaning Up:** Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Contact competent authorities after a spill.

**Reference to Other Sections**

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

### SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling**

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from combustible materials, clothing, organic material. - No smoking. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Do not breathe gas. Handle empty containers with care because they may still present a hazard.

**Additional Hazards When Processed:** May cause or intensify fire; oxidizer. Do not pressurize, cut, or weld containers. Ruptured cylinders may rocket. May release corrosive vapors.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

**Conditions for Safe Storage, Including Any Incompatibilities**

**Technical Measures:** Comply with applicable regulations. Prevent build-up of electrostatic charges (e.g., by grounding). Proper grounding procedures to avoid static electricity should be followed.

**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from extremely high or low temperatures and incompatible materials. Store in original container or corrosive resistant and/or lined container. Protect from sunlight. Keep reduction valves free from grease and oil. Empty containers retain product residue and can be hazardous. Do not reuse container. Use only chlorine-compatible lubricants. Use in a sealed system and/or a well-ventilated area. Observe good hygiene practices.


**Specific End Use(s)**

Pulp bleaching, water treatment, manufacture of plastics, organic and inorganic chlorides, refrigerants and pharmaceuticals.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

<table>
<thead>
<tr>
<th>Chlorine (7782-50-5)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>Mexico</td>
<td>OEL TWA (ppm)</td>
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<tr>
<td>Mexico</td>
<td>OEL STEL (mg/m³)</td>
</tr>
<tr>
<td>Mexico</td>
<td>OEL STEL (ppm)</td>
</tr>
<tr>
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<tr>
<td>USA OSHA</td>
<td>OSHA PEL (Ceiling) (ppm)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (ceiling) (mg/m³)</td>
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<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (ceiling) (ppm)</td>
</tr>
<tr>
<td>USA IDLH</td>
<td>US IDLH (ppm)</td>
</tr>
<tr>
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<td>OEL STEL (mg/m³)</td>
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<td>Alberta</td>
<td>OEL STEL (ppm)</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (mg/m³)</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (ppm)</td>
</tr>
<tr>
<td>British Columbia</td>
<td>OEL STEL (ppm)</td>
</tr>
<tr>
<td>British Columbia</td>
<td>OEL TWA (ppm)</td>
</tr>
<tr>
<td>Manitoba</td>
<td>OEL STEL (ppm)</td>
</tr>
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</table>
Chlorine
Safety Data Sheet


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<td>New Brunswick</td>
<td>OEL STEL (mg/m³)</td>
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<td>New Brunswick</td>
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<td>OEL TWA (ppm)</td>
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<td>Newfoundland &amp; Labrador</td>
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<tr>
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<td>1 ppm</td>
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<td>Ontario</td>
<td>OEL TWA (ppm)</td>
<td>0.5 ppm</td>
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<td>Prince Edward Island</td>
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<td>Québec</td>
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</tr>
<tr>
<td>Québec</td>
<td>VEMP (mg/m³)</td>
<td>1.5 mg/m³</td>
</tr>
<tr>
<td>Québec</td>
<td>VEMP (ppm)</td>
<td>0.5 ppm</td>
</tr>
<tr>
<td>Saskatchewan</td>
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<td>OEL TWA (ppm)</td>
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<td>Yukon</td>
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<td>Yukon</td>
<td>OEL TWA (mg/m³)</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Yukon</td>
<td>OEL TWA (ppm)</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Gas detectors should be used when toxic gases may be released.


Materials for Protective Clothing: Chemically resistant materials and fabrics. Corrosion-proof clothing.

Hand Protection: Wear protective gloves. If material is cold, wear thermally resistant protective gloves.

Eye Protection: Chemical safety goggles and face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Thermal Hazard Protection: Wear thermally resistant protective clothing.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Liquid (compressed Gas)
Appearance: Amber liquid or greenish-yellow gas
Chlorine
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Odor: Pungent
Odor Threshold: < 1 ppm
pH: Reacts with water to product acidic solutions
Evaporation Rate: Not available
Melting Point: -101 °C (-149.8 °F)
Freezing Point: Not available
Boiling Point: -34 °C (-29.2 °F)
Flash Point: Not applicable
Auto-ignition Temperature: Not applicable
Decomposition Temperature: Not available
Flammability (solid, gas): Not applicable
Lower Flammable Limit: Not available
Upper Flammable Limit: Not applicable
Vapor Pressure: 638.4 kPa
Relative Vapor Density at 20°C: 2.5 (air = 1)
Relative Density: Not available
Specific Gravity: 2.5
Solubility: Water: 7.41 g/l
Partition Coefficient: N-Octanol/Water: Not available
Viscosity, Dynamic: 0.01 mPa.s (0.01 cP)
Explosive Properties: Contains gas under pressure; may explode if heated

SECTION 10: STABILITY AND REACTIVITY
Reactivity: Oxidizer: increases the burning rate of combustible materials. May be corrosive to metals.
Chemical Stability: Contains gas under pressure; may explode if heated.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Conditions to Avoid: Extremely high or low temperatures and incompatible materials. Ignition sources. Combustible materials.
Incompatible Materials: Attacks many metals in presence of water. Attacks plastic, rubber and coatings. Chlorine is corrosive to most metals in the presence of moisture (>150 ppm water) or at high temperature. Combines with water to produce hydrochloric and hypochlorous acid. Chlorine reacts with carbon monoxide to produce toxic phosgene, and Sulphur dioxide to produce sulfonyl chloride.
Hazardous Decomposition Products: None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION
Information on Toxicological Effects - Product
Acute Toxicity (Oral): Not classified
Acute Toxicity (Dermal): Not classified
Acute Toxicity (Inhalation): Inhalation:gas: Fatal if inhaled.
LD50 and LC50 Data:

<table>
<thead>
<tr>
<th>Chlorine (7782-50-5)</th>
<th>ATE (Gases)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>147.98 ppmV/4h</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.
Eye Damage/Irritation: Causes serious eye damage.
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): 3
Aspiration Hazard: Not classified
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**Symptoms/Effects After Inhalation:** Inhalation of this material can cause serious health effects in small amounts, leading to unconsciousness and death. Corrosive to the respiratory tract, respiratory tract irritation, coughing, shortness of breath, headache, nausea or vomiting, may cause lung damage, Fatal if inhaled. Irritation threshold is approximately 0.5 ppm. Immediately Dangerous to Life or Health: 10ppm.

**Symptoms/Effects After Skin Contact:** Causes severe irritation which will progress to chemical burns. Contact with gas/liquid escaping the container can cause irritation, redness, frostbite and freeze burns.

**Symptoms/Effects After Eye Contact:** Causes permanent damage to the cornea, iris, or conjunctiva. Contact with gas/liquid escaping the container can cause pain or irritation, watering, redness, frostbite, freeze burns, and permanent eye damage.

**Symptoms/Effects After Ingestion:** Not considered a normal route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

**Chronic Symptoms:** May increase the likelihood of respiratory disorders. Repeated inhalation exposure may cause impairment of lung function and permanent lung damage.

**Information on Toxicological Effects - Ingredient(s)**

<table>
<thead>
<tr>
<th>LD50 and LC50 Data:</th>
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<tbody>
<tr>
<td>Chlorine (7782-50-5)</td>
</tr>
<tr>
<td>LC50 Inhalation Rat</td>
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</table>

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity**

Ecology - General: Very toxic to aquatic life.

<table>
<thead>
<tr>
<th>Chlorine (7782-50-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC50 Fish 2</td>
</tr>
</tbody>
</table>

**Persistence and Degradability**

Chlorine (7782-50-5)

Persistence and Degradability: Not established.

**Bioaccumulative Potential**

Chlorine (7782-50-5)

Bioaccumulative Potential: Not established.

<table>
<thead>
<tr>
<th>Chlorine (7782-50-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF Fish 1</td>
</tr>
</tbody>
</table>

**Mobility in Soil**

Not available

**Other Adverse Effects**

Other Information: Avoid release to the environment.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

**Additional Information:** Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

**SECTION 14: TRANSPORT INFORMATION**

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

*When shipped in accordance with US DOT 49 CFR part 171.4(c) this product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packaging meet the general provisions of §§ 173.24 and 173.24a.

**When shipped in accordance with the Canada Transport of Dangerous Goods Regulations part 1.45.1 and other appropriate sections/provisions, the marine pollutant mark is not required when transported by road or rail.
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<table>
<thead>
<tr>
<th>TRANSPORTATION CLASSIFICATION</th>
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<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
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<td>CHLORINE</td>
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<tr>
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<td>Not applicable</td>
</tr>
</tbody>
</table>

Packing Group | Not applicable | Not applicable | Not applicable | Not applicable |

Environmental Hazards | Marine Pollutant : Yes* | Marine Pollutant : Yes** | Marine Pollutant : Yes | Marine Pollutant: N/A |

Emergency Response | ERG Number : 124 | ERAP Index: 500 | EMS: F-C, S-U | ERG code (IATA): 2CP |

Additional Information | Not applicable | Not applicable | Not applicable | Not applicable |

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Chemical Name (CAS No.) | CERCLA RQ | EPCRA 304 RQ | SARA 302 TPQ | SARA 313 |
Chlorine (7782-50-5) | 10 lb | 10 lb | 100 lb | Yes |

SARA 311/312

Chlorine (7782-50-5)
Fire hazard. Sudden release of pressure hazard. Immediate (acute) health hazard. Delayed (chronic) health hazard

US TSCA Flags: Not present

US State Regulations

California Proposition 65

Chemical Name (CAS No.) | Carcinogenicity | Developmental Toxicity | Female Reproductive Toxicity | Male Reproductive Toxicity |
Chlorine (7782-50-5) | No | No | No | No |

State Right-To-Know Lists

Chlorine (7782-50-5)

U.S. - Massachusetts - Right To Know List - Yes
U.S. - New Jersey - Right to Know Hazardous Substance List - Yes
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List - Yes
U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances - No
U.S. - Pennsylvania - RTK (Right to Know) List - Yes

Canadian Regulations

Chlorine (7782-50-5)
Listed on the Canadian DSL (Domestic Substances List)
Not listed on the Canadian NDSL (Non-Domestic Substances List)

International Inventories/Lists

Chemical Name (CAS No.) | Australia AICS | Turkey CICR | Korea ECL | EU EINECS | EU ELINCS | EU SVHC | EU NLP | Mexico INSQ |
Chlorine (7782-50-5) | Yes | Yes | Yes | Yes | No | No | No | Yes |

Chemical Name (CAS No.) | China IECSC | Japan ENCS | Japan ISHL | Japan PDSCL | Japan PRTR | Philippines PICCS | New Zealand | US TSCA |

07/18/2017 EN (English US) SDS#: CHE-4000S 8/10
Chlorine
Safety Data Sheet

| Chlorine (7782-50-5) | Yes | No | No | Yes | No | Yes | NZIOC | Yes | Yes |

**SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION**

**Date of Preparation or Latest Revision**: 07/18/2017

**Other Information**: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada’s Hazardous Products Regulations (HPR).

**Revision Summary**

<table>
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<tr>
<th>Section</th>
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<th>Date Changed</th>
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**GHS Full Text Phrases:**

| Acute Tox. 2 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 2 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| HHNOC 1 | Health hazard not otherwise classified, category 1 |
| Ox. Gas 1 | Oxidizing gases Category 1 |
| Press. Gas (Liq.) | Gases under pressure Liquefied gas |
| Skin Corr. 1A | Skin corrosion/irritation Category 1A |
| H270 | May cause or intensify fire; oxidizer |
| H280 | Contains gas under pressure; may explode if heated |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H330 | Fatal if inhaled |
| H400 | Very toxic to aquatic life |

**NFPA 704**

**NFPA Health Hazard**: 4 - Materials that, under emergency conditions, can be lethal.

**NFPA Fire Hazard**: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

**NFPA Reactivity Hazard**: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

**NFPA Specific Hazards**: OX - Materials that posses oxidizing properties.

**HMIS Rating**

**Health**: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

**Flammability**: 0 Minimal Hazard

**Physical**: 1 Slight Hazard

**PPE**: See Section 8

**NSF® - 60**

This product has been certified to NSF/ANSI 60 for a Maximum Use Level (MUL) of 30 mg/L.

**Abbreviations and Acronyms**

AICS – Australian Inventory of Chemical Substances

ACGIH – American Conference of Governmental Industrial Hygienists

AIHA – American Industrial Hygiene Association

ATE - Acute Toxicity Estimate

LC50 - Median Lethal Concentration

LD50 - Median Lethal Dose

LOAEI - Lowest Observed Adverse Effect Level

LOEC - Lowest-observed-effect Concentration
Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA’s “Right to Know” (29 CFR 1910.1200) and Canada’s WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.