

## 1. Product and Company Identification

|                                 |                                                                                                                                                         |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product identifier</b>       | <b>Liquid Chlorine</b>                                                                                                                                  |
| <b>Version #</b>                | 01                                                                                                                                                      |
| <b>Issue date</b>               | 06-23-2014                                                                                                                                              |
| <b>Chemical description</b>     | Sodium Hypochlorite                                                                                                                                     |
| <b>CAS #</b>                    | Mixture                                                                                                                                                 |
| <b>MSDS Number</b>              | COM075                                                                                                                                                  |
| <b>Product use</b>              | Professional use only                                                                                                                                   |
| <b>Synonym(s)</b>               | Sodium Hypochlorite * Chlorox * Javex * Basic 12 * Chlorine Bleach                                                                                      |
| <b>Manufacturer information</b> | Refer to supplier                                                                                                                                       |
| <b>Supplier</b>                 | Comet Chemical<br>3463 Thomas Street<br>Innisfill, ON L9S 3W4 CA<br>Information (M-F 8:00-5:00): 705-436-5580<br>24 Hour Number (Newalta): 800-567-7455 |

## 2. Hazards Identification

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Emergency overview</b>              | Clear yellow/green liquid.<br>Chlorine-like odor.<br><br>DANGER!<br><br>May be corrosive to metals. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Corrosive. Causes skin and eye burns. Can cause severe respiratory irritation. Inhalation could result in pulmonary edema (fluid accumulation).                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Potential health effects</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Routes of exposure</b>              | Inhalation. Ingestion. Skin contact. Eye contact.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Eyes</b>                            | Causes chemical burns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Skin</b>                            | Causes chemical burns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Inhalation</b>                      | Can cause severe respiratory irritation. Inhalation could result in pulmonary edema (fluid accumulation).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ingestion</b>                       | May cause severe irritation and corrosive damage in the mouth, throat and stomach.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Target organs</b>                   | Eyes. Respiratory system. Skin. Gastro-intestinal tract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Chronic effects</b>                 | Chronic skin contact with low concentrations may cause dermatitis. May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals. For further information, please refer to section 11 of the MSDS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Signs and symptoms</b>              | Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May result in unconsciousness and possibly death. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. |
| <b>Potential environmental effects</b> | See ECOLOGICAL INFORMATION, Section 12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 3. Composition / Information on Ingredients

| <b>Components</b>   | <b>CAS #</b> | <b>Percent</b> |
|---------------------|--------------|----------------|
| Sodium Hypochlorite | 7681-52-9    | 10-12          |

## 4. First Aid Measures

### First aid procedures

#### Eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Get medical attention immediately.

#### Skin contact

Take off immediately all contaminated clothing. Immediately flush skin with running water for at least 20 minutes. Cover wound with sterile dressing. Do not rub area of contact. Wash contaminated clothing before reuse. Leather and shoes that have been contaminated with the solution may need to be destroyed. Call a physician or poison control center immediately.

#### Inhalation

If inhaled: Remove person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

#### Ingestion

If swallowed: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately.

### Notes to physician

Immediate medical attention is required. Causes chemical burns. May be fatal if inhaled or swallowed. Symptoms may be delayed.

### General advice

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

### Flammable properties

Not flammable by WHMIS criteria. The product is not flammable. Does not burn. Product may slowly decompose in sunlight, generating small amounts of oxygen. The amount of oxygen released does not support combustion. Container may explode in heat of fire.

### Extinguishing media

#### Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide. Use water with caution. Contact with water will generate considerable heat.

#### Unsuitable extinguishing media

Do not use dry chemical extinguishing agents that contain ammonium compounds. Use chemical extinguishing agents with caution. Some chemical extinguishing agents may react with this material.

### Protection of firefighters

#### Specific hazards arising from the chemical

Not considered flammable. Vapors are heavier than air and may spread along floors. Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts violently with a wide variety of organic and inorganic chemicals including alcohol, carbides, chlorates, picrates, nitrates and metals. Toxic fumes, gases or vapours may evolve on burning.

#### Protective equipment for firefighters

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. A full-body chemical resistant suit should be worn.

### Fire fighting equipment/instructions

Fight fire with normal precautions from a reasonable distance. Evacuate the area promptly. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### Explosion data

#### Sensitivity to static discharge

Not expected to be sensitive to static discharge.

#### Sensitivity to mechanical impact

Not expected to be sensitive to mechanical impact.

### Hazardous combustion products

Hydrogen gas. Hydrogen chloride. Chlorine. Oxygen. Sodium oxides.

## 6. Accidental Release Measures

### Personal precautions

Immediately evacuate personnel to safe areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

### Environmental precautions

Avoid discharge into drains, water courses or onto the ground. Contact local authorities in case of spillage to drain/aquatic environment.

### Methods for containment

Stop leak if you can do so without risk. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Prevent entry into waterways, sewer, basements or confined areas.

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods for cleaning up</b> | <p>Ventilate the area. Eliminate all ignition sources if safe to do so. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.</p> <p>Small Spills: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Small spills can be neutralized by covering with a reducing agent, such as Sodium thiosulfate or Sodium sulphite. With sulphites, add dilute Sulphuric acid (2M) to speed up the reaction.</p> <p>Large Spills: Prevent entry into waterways, sewer, basements or confined areas. If not recoverable, dilute with water or flush to holding area and neutralize. Remove with vacuum trucks or pump to storage/salvage vessels. Contact the proper local authorities.</p> <p>Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. Do not flush spill to drain.</p> <p>Never return spills to original containers for re-use.</p> |
| <b>Other information</b>       | Clean up in accordance with all applicable regulations. Contaminated absorbent material may pose the same hazards as the spilled product. Dispose of spent absorbent in an approved industrial waste landfill. For waste disposal, see Section 13.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## 7. Handling and Storage

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Handling</b> | Use only outdoors or in a well-ventilated area. Wear chemically resistant protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not breathe mist. Do not taste or swallow. Avoid contact with eyes, skin and clothing. Keep away from heat. Keep away from metals and other incompatibles. When preparing or diluting solution, always add to water, slowly and with stirring. When diluting, always add the product to water. Never add water to the product. Label containers appropriately. Wash thoroughly after handling. When using, do not eat, drink or smoke. Avoid release to the environment. |
| <b>Storage</b>  | Store in a cool, dry place out of direct sunlight. Do not store in direct sunlight. Store in a well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store away from incompatible materials (see Section 10 of the MSDS). Keep at temperature not exceeding °C.                                                                                                                                                                                                                                                  |

## 8. Exposure Controls / Personal Protection

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Occupational exposure limits</b>  | No exposure limits noted for ingredient(s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Biological limit values</b>       | No biological exposure limits noted for the ingredient(s).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Engineering controls</b>          | 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. Ensure adequate ventilation, especially in confined areas.                                                                                                                                                                                                                                 |
| <b>Personal protective equipment</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Eye/face protection</b>           | Chemical goggles and face shield are recommended.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Skin protection</b>               | Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Respiratory protection</b>        | In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with CSA Z94.4-02. Advice should be sought from respiratory protection specialists. |
| <b>Hand protection</b>               | Wear appropriate chemical resistant gloves. Wear as appropriate: Butyl rubber. Nitrile. Neoprene. Teflon. Responder. Viton rubber (fluor rubber). Advice should be sought from glove suppliers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## 9. Physical & Chemical Properties

|                       |                            |
|-----------------------|----------------------------|
| <b>Appearance</b>     | Clear yellow/green liquid. |
| <b>Physical state</b> | Liquid.                    |
| <b>Form</b>           | Liquid.                    |
| <b>Color</b>          | Clear to yellow/green.     |
| <b>Odor</b>           | Pungent. Chlorine-like.    |
| <b>Odor threshold</b> | Not available.             |

|                                                       |                    |
|-------------------------------------------------------|--------------------|
| <b>pH</b>                                             | 12.8               |
| <b>Vapor pressure</b>                                 | 22 mm Hg           |
| <b>Vapor density</b>                                  | 2.5 (Chlorine gas) |
| <b>Boiling point</b>                                  | 221 °F (105 °C)    |
| <b>Melting point/Freezing point</b>                   | 5 °F (-15 °C)      |
| <b>Solubility (water)</b>                             | Soluble            |
| <b>Specific gravity</b>                               | 1.16               |
| <b>Relative density</b>                               | Not available.     |
| <b>Flash point</b>                                    | Not applicable.    |
| <b>Flammability limits in air, upper, % by volume</b> | Not applicable.    |
| <b>Flammability limit - upper (%) temperature</b>     | Not applicable.    |
| <b>Flammability limits in air, lower, % by volume</b> | Not applicable.    |
| <b>Auto-ignition temperature</b>                      | Not applicable.    |
| <b>Evaporation rate</b>                               | Not available.     |
| <b>Percent volatile</b>                               | 80 %               |
| <b>Partition coefficient (n-octanol/water)</b>        | Not available.     |
| <b>Other data</b>                                     |                    |
| <b>Decomposition temperature</b>                      | 104 °F (40 °C)     |
| <b>Density</b>                                        | 1.16 g/cm3         |
| <b>Flammability (solid, gas)</b>                      | Not applicable.    |

## 10. Chemical Stability & Reactivity Information

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | Contact with most metals will generate flammable hydrogen gas. Contact with water will generate considerable heat. Reacts with amines and ammonia compounds to form explosively unstable compounds. May be corrosive to metals. May be corrosive to: Aluminum. Stainless steel. Carbon steel. Copper. Bronze                                                                                                                                                                                                                                                                   |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Conditions to avoid</b>                | Avoid high temperatures. Direct sources of heat. Direct sunlight. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation. Do not allow evaporation to dryness.                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Incompatible materials</b>             | Metals. Strong oxidizing agents. Acids. Amines. Ammonia. Reducing agents. Nitrites. Organic compounds.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Hazardous decomposition products</b>   | None known.<br>In the event of fire the following can be released: Chlorine. Sodium chlorate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Possibility of hazardous reactions</b> | Contact with water will generate considerable heat. Contact with most metals will generate flammable hydrogen gas. May be corrosive to metals. May be corrosive to: Aluminum. Stainless steel. Carbon steel. Copper Bronze Reacts vigorously or violently with many organic and inorganic chemicals such as: acids, acrolein, acrylonitrile, chlorinated hydrocarbons (e.g. 1,2 dichloroethylene), chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, 2-nitrophenol, nitropropane, phosphorus, potassium persulfate, and tetrahydrofuran (containing peroxides). |

## 11. Toxicological Information

| Toxicological data                  |         |                |
|-------------------------------------|---------|----------------|
| Components                          | Species | Test Results   |
| Sodium Hypochlorite (CAS 7681-52-9) |         |                |
| <b>Acute</b>                        |         |                |
| <i>Dermal</i>                       |         |                |
| LD50                                | Rabbit  | > 10000 mg/kg  |
| <i>Inhalation</i>                   |         |                |
| LC50                                | Rat     | > 5.25 mg/l/4h |

| Components                                             | Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Test Results                                        |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Oral<br>LD50                                           | Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8910 mg/kg                                          |
| Acute effects                                          | This product is not classified as an acute toxicity hazard. See data for individual ingredient acute toxicity data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                     |
|                                                        | May cause respiratory irritation. Inhalation could result in pulmonary edema (fluid accumulation). Causes severe skin burns and eye damage. May cause severe irritation and corrosive damage in the mouth, throat and stomach.                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                     |
| Sensitization                                          | May cause an allergic skin reaction (e.g. hives, rash) in some hypersensitive individuals. Not expected to be a skin or respiratory sensitizer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |
| Local effects                                          | Causes burns. May be fatal if inhaled or swallowed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                     |
| Chronic effects                                        | Chronic skin contact with low concentrations may cause dermatitis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                     |
| Carcinogenicity                                        | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |
| IARC Monographs. Overall Evaluation of Carcinogenicity |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |
| Sodium Hypochlorite (CAS 7681-52-9)                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3 Not classifiable as to carcinogenicity to humans. |
| Skin corrosion/irritation                              | . Causes severe skin burns.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                     |
| Serious eye damage/irritation                          | Causes serious eye damage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                     |
| Mutagenicity                                           | Not expected to be mutagenic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |
| Reproductive effects                                   | This product is not expected to cause reproductive or developmental effects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                     |
| Teratogenicity                                         | Not expected to be a teratogen.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |
| Symptoms and target organs                             | Can cause severe respiratory irritation. Symptoms may include coughing, choking and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause severe irritation and corrosive damage in the mouth, throat and stomach. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding and eventually death. Direct skin contact may cause corrosive skin burns, deep ulcerations and possibly permanent scarring. Corrosive to the eyes and may cause severe damage including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |                                                     |
| Epidemiology                                           | No epidemiological data is available for this product.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                     |
| Synergistic materials                                  | Not available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                     |

## 12. Ecological Information

| Ecotoxicological data               |                                                                                                                      |                                |                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------|
| Components                          |                                                                                                                      | Species                        | Test Results         |
| Sodium Hypochlorite (CAS 7681-52-9) |                                                                                                                      |                                |                      |
| Aquatic                             |                                                                                                                      |                                |                      |
| Acute                               |                                                                                                                      |                                |                      |
| Crustacea                           | EC50                                                                                                                 | Water flea (Daphnia magna)     | 0.169 mg/l, 48 hours |
| Fish                                | LC50                                                                                                                 | Bluegill (Lepomis macrochirus) | 0.58 mg/l, 96 hours  |
| Ecotoxicity                         | The ingredient ecotoxicity data appearing above is expected to be primarily associated with pH.                      |                                |                      |
| Environmental effects               | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.                      |                                |                      |
| Aquatic toxicity                    | Very toxic to aquatic organisms.                                                                                     |                                |                      |
| Persistence and degradability       | No data is available on the degradability of this product. Biodegradation is not applicable to inorganic substances. |                                |                      |
| Bioaccumulation / accumulation      | No accumulation in living organisms is expected due to high solubility and dissociation properties.                  |                                |                      |
| Mobility in environmental media     | High water solubility indicates a high mobility in soil.                                                             |                                |                      |

## 13. Disposal Considerations

|                              |                                                                                                                                                                                                             |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Disposal instructions</b> | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations. |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**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**

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

**14. Transport Information****TDG**

|                                     |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| <b>UN number</b>                    | UN1791                                                                   |
| <b>UN proper shipping name</b>      | HYPOCHLORITE SOLUTION                                                    |
| <b>Transport hazard class(es)</b>   |                                                                          |
| <b>Class</b>                        | 8                                                                        |
| <b>Subsidiary risk</b>              | -                                                                        |
| <b>Packing group</b>                | III                                                                      |
| <b>Environmental hazards</b>        | Yes                                                                      |
| <b>Special precautions for user</b> | Read safety instructions, MSDS and emergency procedures before handling. |

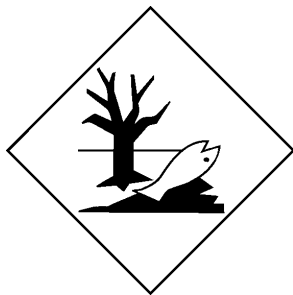
**IATA**

|                                     |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| <b>UN number</b>                    | UN1791                                                                   |
| <b>UN proper shipping name</b>      | HYPOCHLORITE SOLUTION                                                    |
| <b>Transport hazard class(es)</b>   |                                                                          |
| <b>Class</b>                        | 8                                                                        |
| <b>Subsidiary risk</b>              | -                                                                        |
| <b>Packing group</b>                | III                                                                      |
| <b>Environmental hazards</b>        | Yes                                                                      |
| <b>ERG Code</b>                     | 8L                                                                       |
| <b>Special precautions for user</b> | Read safety instructions, MSDS and emergency procedures before handling. |
| <b>Other information</b>            |                                                                          |
| <b>Passenger and cargo aircraft</b> | Allowed.                                                                 |
| <b>Cargo aircraft only</b>          | Allowed.                                                                 |

**IMDG**

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

**IATA; IMDG; TDG**



## 15. Regulatory Information

### Canadian regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

### WHMIS status

Controlled

### WHMIS classification

E - Corrosive

### WHMIS labeling



### International Inventories

| Country(s) or region        | Inventory name                                                         | On inventory (yes/no)* |
|-----------------------------|------------------------------------------------------------------------|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | Yes                    |
| Canada                      | Domestic Substances List (DSL)                                         | Yes                    |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                    |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | Yes                    |
| Korea                       | Existing Chemicals List (ECL)                                          | Yes                    |
| New Zealand                 | New Zealand Inventory                                                  | Yes                    |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | Yes                    |
| 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)

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

### HMIS® ratings

Health: 3  
Flammability: 0  
Physical hazard: 0

### NFPA ratings

Health: 3  
Flammability: 0  
Instability: 0

## Disclaimer

Prepared by: ICC The Compliance Center Inc. 1-888-442-9628  
<http://www.thecompliancecenter.com>

### Disclaimer

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by / obtained from Comet Chemical Company Ltd. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Comet Chemical Company Ltd. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Comet Chemical Company Ltd.

## Legend to abbreviations and acronyms used in the SDS

ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstract Services  
DSL: Domestic Substance List  
EC: European Community  
EINECS: European Inventory of Existing Commercial chemical Substances  
EPA: Environmental Protection Agency  
EPCRA: Emergency Planning and Community Right-to-Know Act  
HSDB® - Hazardous Substances Data Bank  
IARC: International Agency for Research on Cancer  
IATA: International Air Transport Association  
IBC: Intermediate Bulk Container  
IMDG: International Maritime Dangerous Goods  
LC: Lethal Concentration  
LD: Lethal Dose  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OECD: Organisation for Economic Co operation and Development  
OSHA: Occupational Safety and Health Administration  
PPE: Personal Protective Equipment  
RCRA: Resource Conservation and Recovery Act  
RTECS: Registry of Toxic Effects of Chemical Substances  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Values  
TWA: Time Weighted Average

## References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices (2014)  
International Agency for Research on Cancer Monographs (2014)  
Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014  
(Chempendium, RTECs, HSDB, INCHEM)  
Material Safety Data Sheet from manufacturer.  
OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2014.