SAFETY DATA SHEET

LIQUID CHLORINE

Date prepared: January 2, 2017
MSDS : Liquid Chlorine SDS GHS

1. IDENTIFICATION

**Product Identifier**

**Product Name**  Liquid Chlorine

**Recommended use of the chemical and restrictions on use**

**Recommended use**  Chlorine bleach

**Restrictions on use**  Do not mix with acids

**Supplier details**

West Penetone Inc.
10900 Secant
Montreal, QC,
H1J 5S1
Tel: 514-355-4660

**Emergency Telephone Number**

Canutec (613)-996-6666

2. HAZARDS IDENTIFICATION

**Classification**

| Skin Corrosion/Irritation | Category 1 |
| Eye damage/ irritation     | Category 1 |
| Corrosive to metals       | Category 1 |

**Label Elements**

**DANGER**

**Hazard Statements**
Causes severe skin burns and eye damage.  
May be corrosive to metals.

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash face, hands and any exposed skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Keep only in original packaging.

**Precautionary Statements - Response**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse.  
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.  
Absorb spillage to prevent material damage.
Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant according to local, provincial/federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td>7681-52-9</td>
<td>10-16</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>1-4</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Skin contact
Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Ingestion
Do not induce vomiting. Drink 1 or 2 glasses of water. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Causes burns to eyes, skin and mucous membranes. Symptoms include tingling sensation and/or reddening of tissues.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
Do not use dry chemical extinguishing agents that contain ammonium compounds. Some chemical extinguishing agents may react with this material.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. The product will react violently with acids, organic materials and metals and may generate toxic gases.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Avoid contact with skin, eyes and clothing. Use personal protective equipment.

Environmental Precautions
Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Handling
Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities
Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials
Acids, oxidizing agents, amines, ammonia, nitrites, reducing agents, organic compounds.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters
Only constituents with exposure limits are listed. Any constituent not listed has no known exposure limit.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>STEL: 2 mg/m³</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls
Engineering Controls
Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/face Protection
Safety goggles.

Skin and body protection
Wear rubber or neoprene gloves, rubber apron and boots.

Respiratory Protection
If exposure limits are exceeded or if ventilation is inadequate, NIOSH/MSHA approved respiratory protection should be worn.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : Clear, light green liquid
VAPOR PRESSURE, mm Hg AT 20°C : Not applicable
ODOR Chlorine
VAPOR DENSITY (Air = 1) : Not applicable
ODOR THRESHOLD : Not applicable
RELATIVE DENSITY AT 20°C: 1.2
10. STABILITY AND REACTIVITY

Reactivity
Not reactive

Conditions to Avoid
Store away from incompatible materials.

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
Chlorine gas is generated when mixed with incompatible materials.

Incompatible Materials
Acids, oxidizing agents, amines, ammonia, nitrites, reducing agents, organic compounds.

Hazardous decomposition products
None

11. TOXICOLOGICAL INFORMATION

Acute toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td>8910 mg/kg (Rat)</td>
<td>No data available</td>
<td>&gt; 5.25 mg/L (rat) 4 hours</td>
</tr>
<tr>
<td>7681-52-9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>500 mg/kg (Rabbit LDLo)</td>
<td>1350 mg/kg (Rabbit)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>1310-73-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information on likely sources of exposure

Serious eye damage/irritation
Corrosive to eyes and may cause grave lesions, including blindness.

Skin corrosion/irritation
Corrosive to skin.

Ingestion
Ingestion may cause burns to the digestive and respiratory tract.

Inhalation
Spray mist may cause irritation or burns to respiratory tract.

Delayed and immediate effects and also chronic effects from short and long-term exposure

Respiratory or skin sensitization
Not a sensitizer.

Germ cell mutagenicity
None known.

Carcinogenicity
No listed human carcinogens.

Reproductive toxicity
None known.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Aspiration Hazard
No information available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms include tingling sensation and / or reddening of tissues, eventually leading to burn lesions.
### 12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ecotoxicity</th>
<th>No information available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Bioaccumulative potential</td>
</tr>
<tr>
<td>No information available</td>
<td>None known</td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td>Other adverse effects</td>
</tr>
<tr>
<td>No information available</td>
<td>None known</td>
</tr>
</tbody>
</table>

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method**  
Dispose of in accordance with local regulations.

**Contaminated Packaging**  
Empty containers should be taken for local recycling, recovery or waste disposal.

### 14. TRANSPORT INFORMATION

**TDG classification**  
UN1791, Hypochlorite solution, class 8, PG III

### 15. REGULATORY INFORMATION

All ingredients are listed on the DSL

### 16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Preparation Date</th>
<th>January 2, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Date</td>
<td>not applicable</td>
</tr>
<tr>
<td>Revision Note</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

**Disclaimer**  
The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS