

# SAFETY DATA SHEET

Chlorine



## Section 1. Identification

- GHS product identifier** : Chlorine
- Chemical name** : chlorine
- Other means of identification** : Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine
- Product type** : Gas.
- Product use** : Synthetic/Analytical chemistry.
- Synonym** : Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine
- SDS #** : 001015
- Supplier's details** : The Aero ALL-GAS Company  
3150 Main Street  
Hartford, CT 06120  
ph: (860) 278-AERO  
fax: (860) 527-AERO
- 24-hour telephone** : 1-800-424-9300 Chemtrec

## Section 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Classification of the substance or mixture** : OXIDIZING GASES - Category 1  
GASES UNDER PRESSURE - Compressed gas ACUTE  
TOXICITY (inhalation) - Category 2  
SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1  
AQUATIC HAZARD (ACUTE) - Category 1

### GHS label elements

#### Hazard pictograms



#### Signal word Hazard statements

- : Danger
- : H270 - May cause or intensify fire; oxidizer.
- : H280 - Contains gas under pressure; may explode if heated.
- : H314 - Causes severe skin burns and eye damage.
- : H330 - Fatal if inhaled.
- : H400 - Very toxic to aquatic life.

### Precautionary statements

#### General

- : Read and follow all Safety Data Sheets (SDS'S) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand. Close valve after each use and when empty. Use equipment rated for cylinder pressure. Do not open valve until connected to equipment prepared for use. Use a back flow preventative device in the piping. Use only equipment of compatible materials of construction. Open valve slowly. Use only with equipment cleaned for Oxygen service.

## Section 2. Hazards identification

- Prevention** : P280 - Wear protective gloves, protective clothing and eye or face protection.  
P284 - In case of inadequate ventilation wear respiratory protection.  
P220 - Keep away from clothing and other combustible materials.  
P244 - Keep reduction valves, valves and fittings free from oil and grease. P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P260 - Do not breathe gas.  
P264 - Wash thoroughly after handling.
- Response** : P391 - Collect spillage.  
P370 + P376 - In case of fire: Stop leak if safe to do so.  
P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.  
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.  
P363 - Wash contaminated clothing before reuse.  
P305 + P351 + P338, P310 - 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.
- Storage** : P405 - Store locked up.  
P410 + P403 - Protect from sunlight. Store in a well-ventilated place.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Chemical name** : chlorine
- Other means of identification** : Molecular chlorine; CHLORINE GAS; active chlorine released from chlorine; Dichlorine; Dichlor; Diatomic chlorine; Chlorine molecule; Chlorine mol.; Chlor mol.; Chlorine, liquefied; Liquid chlorine
- Product code** : 001015

| Ingredient name | %   | CAS number |
|-----------------|-----|------------|
| Chlorine        | 100 | 7782-50-5  |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

## Section 4. First aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage. Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : Fatal if inhaled.
- Skin contact** : Causes severe burns. Contact with rapidly expanding gas may cause burns or frostbite.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Ingestion** : As this product is a gas, refer to the inhalation section.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following: pain  
or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Contains gas under pressure. Oxidizing material. This material increases the risk of fire and may aid combustion. Contact with combustible material may cause fire. In a fire or if heated, a pressure increase will occur and the container may burst or explode. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
halogenated compounds
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.
- Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Avoid release to the environment. Empty containers retain product residue and can be hazardous. Keep away from clothing, incompatible materials and combustible materials. Do not breathe gas. Keep reduction valves free from grease and oil.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

### Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Separate from reducing agents and combustible materials. Store away from grease and oil. Keep container tightly closed and sealed until ready for use. See Section 10 for incompatible materials before handling or use. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name | Exposure limits  |
|-----------------|--|
| chlorine        | California PEL for Chemical Contaminants ( Table AC-1) (United States)<br>PEL 8 hours: 0.5 ppm. STEL<br>15 minutes: 1 ppm. |

#### Biological exposure indices

No exposure indices known.

### Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

#### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

- 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. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Gas. [GREENISH-YELLOW GAS WITH SUFFOCATING ODOR]
- Color** : Colorless. Green. Yellow.
- Odor** : Pungent.
- Odor threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : -101°C (-149.8°F)
- Boiling point or initial boiling point and boiling range** : -34°C (-29.2°F)
- Flash point** : [Product does not sustain combustion.] Not available.
- Evaporation rate** : available.
- Flammability (solid, gas)** : Extremely flammable in the presence of the following materials or conditions: reducing materials, combustible materials, organic materials and alkalis.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : 85.3 (psig)
- Relative vapor density** : 2.5 [Air = 1]
- Specific Volume (ft<sup>3</sup>/lb)** : 5.4054
- Gas Density (lb/ft<sup>3</sup>)** : 0.185
- Relative density** : Not applicable.
- Solubility(ies)** :

| Media      | Result                |
|------------|-----------------------|
| cold water | Very slightly soluble |

- Solubility in water** : 7.41 g/l
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flow time (ISO 2431)** : Not available.
- Molecular weight** : 70.9 g/mole

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Hazardous reactions or instability may occur under certain conditions of storage or use. Conditions may include the following:  
contact with combustible materials  
Reactions may include the following: risk of causing fire
- Conditions to avoid** : No specific data.

## Section 10. Stability and reactivity

- Incompatible materials** : Highly reactive or incompatible with the following materials:  
combustible materials  
reducing materials  
grease  
oil
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### **Product/ingredient name**

chlorine

##### **Result**

Rat - Inhalation - LC50 Gas.  
293 ppm [1 hours]

**Conclusion/Summary [Product]** : Not available.

#### Skin corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : Not available.

#### Serious eye damage/eye irritation

Not available.

**Conclusion/Summary [Product]** : Not available.

#### Respiratory corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : Not available.

#### Respiratory or skin sensitization

Not available.

#### **Skin**

**Conclusion/Summary [Product]** : Not available.

#### **Respiratory**

**Conclusion/Summary [Product]** : Not available.

#### Germ cell mutagenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

## Section 11. Toxicological information

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye damage. Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : Fatal if inhaled.
- Skin contact** : Causes severe burns. Contact with rapidly expanding gas may cause burns or frostbite.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following: pain  
or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

#### **Short term exposure**

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.
- Long term exposure**

## Section 11. Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**Conclusion/Summary [Product]** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| chlorine                | N/A          | N/A            | 146.5                    | N/A                        | N/A                                 |

## Section 12. Ecological information

### Toxicity

#### Product/ingredient name

chlorine

#### Result

##### **Acute - LC50 - Fresh water**

Fish - Rainbow trout, donaldson trout - *Oncorhynchus mykiss*

Size: 10.16 to 12.7 cm

14 µg/l [96 hours]

Effect: Mortality

##### **Acute - LC50 - Fresh water**

Crustaceans - Aquatic sowbug - *Asellus racovitzai*

2.03 µg/l [2 days]

Effect: Mortality

##### **Acute - EC50 - Marine water**

Algae - Giant kelp - *Macrocystis pyrifera* - Young

5.1 ppm [4 days]

Effect: Physiology

**Conclusion/Summary [Product]** : Not available.

### Persistence and degradability

Not available.

**Conclusion/Summary [Product]** : Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

## Section 12. Ecological information

**Soil/Water partition coefficient** : Not available.

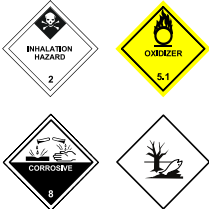
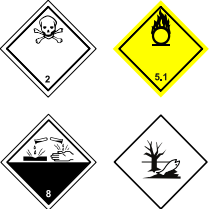
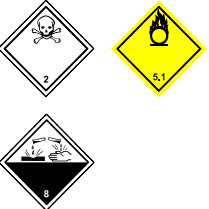
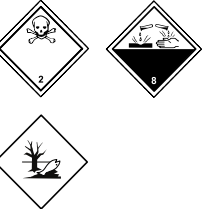
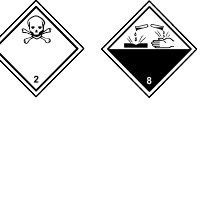
### Other adverse effects

No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

|                                   | DOT   | TDG   | Mexico   | IMDG   | IATA   |
|-----------------------------------|---|---|--|--|--|
| <b>UN number</b>                  | UN1017  | UN1017  | UN1017   | UN1017   | UN1017   |
| <b>UN proper shipping name</b>    | CHLORINE  | CHLORINE  | CHLORINE   | CHLORINE   | CHLORINE   |
| <b>Transport hazard class(es)</b> | 2.3 (5.1, 8)<br> | 2.3 (5.1, 8)<br> | 2.3 (5.1, 8)<br> | 2.3 (8)<br> | 2.3 (8)<br> |
| <b>Packing group</b>              | -   | -   | -  | -  | -  |
| <b>Environmental hazards</b>      | Yes.  | Yes.  | Yes. The environmentally hazardous substance mark is not required.                                   | Yes.   | Yes. The environmentally hazardous substance mark is not required.                               |

**“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”**

### Additional information

#### DOT Classification

: Toxic - Inhalation hazard Zone B  
 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 meets the general provisions of §§ 173.24 and 173.24a.

**Reportable quantity** 10 lbs / 4.54 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Limited quantity** Yes.

**Quantity limitation** Passenger aircraft/rail: Forbidden. Cargo aircraft: Forbidden.

**Special provisions** 2, B9, B14, T50, TP19

## Section 14. Transport information

- TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2), 2.23-2.25 (Class 5), 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).  
The marine pollutant mark is not required when transported by road or rail.  
**Explosive Limit and Limited Quantity Index** 0  
**ERAP Index** 500  
**Passenger Carrying Vessel Index** Forbidden  
**Passenger Carrying Road or Rail Index** Forbidden
- IMDG** : The marine pollutant mark is not required when transported in sizes of  $\leq 5$  L or  $\leq 5$  kg.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**Quantity limitation** Passenger and Cargo Aircraft: Forbidden. Cargo Aircraft Only: Forbidden.

- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

- U.S. Federal regulations** :
- TSCA 8(a) CDR Exempt/Partial exemption: Not determined Clean Water Act (CWA) 311: chlorine
- Clean Air Act (CAA) 112 regulated toxic substances: chlorine

### TSCA 12(b) - Chemical export notification

Not applicable.

- Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed
- Clean Air Act Section 602 Class I Substances** : Not listed
- Clean Air Act Section 602 Class II Substances** : Not listed
- DEA List I Chemicals (Precursor Chemicals)** : Not listed
- DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

| Name     | %   | EHS  | SARA 302 TPQ |           | SARA 304 RQ |           |
|----------|-----|------|--------------|-----------|-------------|-----------|
|          |     |      | (lbs)        | (gallons) | (lbs)       | (gallons) |
| chlorine | 100 | Yes. | 100          | -         | 10          | -         |

- SARA 304 RQ** : 10 lbs / 4.5 kg

### SARA 311/312

- Classification** : Refer to Section 2: Hazards Identification of this SDS for classification of substance.

### SARA 313

## Section 15. Regulatory information

|  | Product name | CAS number | %   |
|--|--------------|------------|-----|
| <b>Form R - Reporting requirements</b> | chlorine     | 7782-50-5  | 100 |
| <b>Supplier notification</b>           | chlorine     | 7782-50-5  | 100 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : This material is listed.

**New York** : This material is listed.

**New Jersey** : This material is listed.

**Pennsylvania** : This material is listed.

### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : This material is listed or exempted.

**Canada** : This material is listed or exempted.

**China** : This material is listed or exempted.

**Eurasian Economic Union** : **Russian Federation inventory**: Not determined.

**Japan** : **Japan inventory (CSCL)**: Not determined.

**Japan inventory (ISHL)**: Not determined.

**New Zealand** : This material is listed or exempted.

**Philippines** : This material is listed or exempted.

**Republic of Korea** : This material is listed or exempted.

**Taiwan** : This material is listed or exempted.

**Thailand** : This material is listed or exempted.

**Turkey** : This material is listed or exempted.

**United States** : This material is active or exempted.

**Viet Nam** : This material is listed or exempted.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

|                  |   |   |
|------------------|---|---|
| Health           | / | 3 |
| Flammability     |   | 0 |
| Physical hazards |   | 3 |
|                  |   |   |

## Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### Procedure used to derive the classification

| Classification   | Justification   |
|--|---|
| OXIDIZING GASES - Category 1<br>GASES UNDER PRESSURE - Compressed gas ACUTE<br>TOXICITY (inhalation) - Category 2 SKIN<br>CORROSION - Category 1<br>SERIOUS EYE DAMAGE - Category 1 AQUATIC<br>HAZARD (ACUTE) - Category 1 | Expert judgment<br>According to package<br>On basis of test data<br>Expert judgment Expert judgment Expert judgment |

### History

**Date of printing** : 5/7/2025

**Date of issue/Date of revision** : 5/7/2025

**Date of previous issue** : 2/23/2022

**Version** : 2.02

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

**References** : Not available.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.