



**Tel: 514-956-7503**  
**Fax: 514-956-7504**  
**Internet: [www.megs.ca](http://www.megs.ca)**  
**Email : [support@megs.ca](mailto:support@megs.ca)**

<b>Montreal</b>	St-Laurent	Tel : 514-956-7503	Fax : 514-956-7504
<b>Ottawa</b>	Nepean	Tel : 613-226-4228	Fax : 613-226-4229
<b>Quebec</b>	Quebec	Tel : 418-834-7447	Fax : 418-834-3774

**MSDS: Chlorine**

### PRODUCT INFORMATION

**PRODUCT:** Chlorine  
**TRADE NAME:** Chlorine  
**CHEMICAL NAME:** Chlorine  
**SYNONYMS:** None  
**FORMULA:** Cl<sub>2</sub>  
**CHEMICAL FAMILY:** Halogen  
**SUPPLIER'S NAME:** MEGS Inc.  
**SUPPLIER'S ADDRESS:** 2675 De Miniac  
Ville St-Laurent, Qc, H4S 1E5  
**EMERGENCY PHONE NUMBER:** (514) 956-7503  
**MOLECULAR WEIGHT:** 70.91  
**PRODUCT USE:** Various  
**PRODUCT IDENTIFICATION UN 1017**  
**NUMBER:**

### HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Chlorine	99+%	7782-50-5	None published	Inhl-Human 873 ppm/30 min

### PHYSICAL DATA

**PHYSICAL STATE:** Gas and liquid under pressure  
**APPEARANCE:** Amber colored liquid; gas is greenish yellow  
**ODOR:** Sharp, pungent odor.  
**ODOR THRESHOLD:** Detectable at levels below 1 ppm in air by the normal person.  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** Liquid @ Boiling Point = 1.56  
**VAPOR PRESSURE:** @ 15°C = 584 kPa

VAPOR DENSITY (air = 1): 2.48  
EVAPORATION RATE: Unknown  
BOILING POINT: -34.1°C  
FREEZING POINT: -101.0°C  
pH: Unknown  
GAS DENSITY: 3.38 kg/m<sup>3</sup> @ 15°C, 101.3 kPa  
COEFFICIENT OF WATER/OIL @ 15°C, Bunsen Coefficient = 2.620  
DISTRIBUTION:

### FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Nonflammable gas  
MEANS OF EXTINCTION: Nonflammable gas  
FLASHPOINT AND METHOD OF DETERMINATION: Nonflammable gas  
UPPER EXPLOSION LIMIT (% BY VOL): Nonflammable gas  
LOWER EXPLOSION LIMIT (% BY VOL): Nonflammable gas  
AUTO-IGNITION TEMPERATURE: Nonflammable gas  
FLAMMABILITY CLASSIFICATION: Nonflammable gas  
HAZARDOUS COMBUSTION PRODUCTS: Nonflammable gas  
EXPLOSION DATA: Nonflammable gas  
SENSITIVITY TO STATIC DISCHARGE: None

### REACTIVITY DATA

CHEMICAL STABILITY: Stable  
INCOMPATIBLE MATERIALS: Hydrocarbons, ammonia, ether  
CONDITIONS OF REACTIVITY: High reactivity with organic and inorganic compounds may cause explosions and can aggravate fires. Most hazardous reactions are with OF<sub>2</sub>, O<sub>2</sub>F<sub>2</sub>, F<sub>2</sub> NH<sub>3</sub> phosphorus and arsenic.  
HAZARDOUS DECOMPOSITION PRODUCTS: None

### TOXICOLOGICAL PROPERTIES

#### ROUTES OF ENTRY:

SKIN CONTACT: Corrosive and irritating to all mucosal tissue, skin and eyes.

SKIN ABSORPTION: None

**EYE:** See Skin Contact, above

**INHALATION:** Corrosive and irritating to the upper and lower respiratory tract. Initial symptoms are irritation of the eyes, nose and throat becoming steadily worse, suffocating and painful. The irritation extends to the chest causing a cough reflex which may be violent and painful and may include the discharge of blood or vomiting with eventual collapse. Other symptoms may include headache, general discomfort and anxiety.

**INGESTION:** None

**ACUTE OVER EXPOSURE EFFECTS:** Irritating and corrosive to all living tissue. Toxic level exposure to dermal tissue causes acid-like burns and skin lesions resulting in early necrosis and scarring. Chemical pneumonitis and pulmonary edema result from exposure to the lower respiratory tract and deep lung. Burns to the eye result in lesions and possible loss of vision. Produces no known systemic effects or permanent physiological effect.

**CHRONIC OVER EXPOSURE EFFECTS:** None known

**EXPOSURE LIMITS:** TWA = 0.5 molar ppm; STEL = 1 molar ppm

**IRRITANCY OF PRODUCT:** Irritating to all living tissues

**SENSITIZATION TO MATERIAL:** Unknown

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** None known

**TERATOGENICITY, MUTAGENICITY:** Cyt-human lymphocyte @ 20 molar ppm

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** Unknown

## **PREVENTIVE MEASURES**

**PERSONAL PROTECTIVE EQUIPMENT:** PVC gloves ke-F®/Teflon® gloves. Safety goggles or glasses. Safety shoes, safety shower and eyewash "fountain".

**SPECIFIC ENGINEERING CONTROLS:** Most metals are corroded by chlorine at ambient temperature if moisture is present. Systems must be kept scrupulously dry. Lead, gold, tantalum and Hasteloy® offer the best corrosion resistance to moist chlorine.

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

**STORAGE REQUIREMENTS:** Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.

**TDG CLASSIFICATION:** 2.3 (5.1)

**WHMIS CLASSIFICATION:** A, D1, E

**SPECIAL SHIPPING INFORMATION:** Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

## **FIRST AID MEASURES**

**SPECIFIC FIRST AID PROCEDURES:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO CHLORINE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS

**INHALATION:** Conscious persons should be assisted to an uncontaminated

area and inhale fresh air. Unconscious persons should be moved to an uncontaminated area and given assisted respiration and supplemental oxygen. Keep the victim warm and quiet. Assure that mucous or vomited material does not obstruct the airway by positional drainage.

**EYE CONTACT:** PERSONS WITH POTENTIAL EXPOSURE TO CHLORINE SHOULD NOT WEAR CONTACT LENSES. Flush contaminated eye(s) with copious quantities of water. Part eyelids with fingers to assure complete flushing. Continue for a minimum of 15 minutes.

**SKIN CONTACT:** Flush affected area with copious quantities of water. Remove affected clothing as rapidly as possible.

<b>PREPARATION INFORMATION</b>
--------------------------------

**PREPARED BY:** Safety Department

**DATE PREPARED:** 01/01/1999

**LAST REVISION DATE:** 01/01/2009

**THE INFORMATION, RECOMMENDATIONS AND DATA CONTAINED IN THIS DOCUMENT ARE INTENDED TO BE USED BY PROPERLY TRAINED AND QUALIFIED PERSONNEL ONLY AND AT THEIR SOLE RISKS AND DISCRETION. THE INFORMATION, RECOMMENDATIONS AND DATA HEREIN CONTAINED ARE DERIVED FROM SOURCES WHICH WE BELIEVE TO BE RELIABLE. HOWEVER, MEGS INC. MAKES NO REPRESENTATION AND GIVES NO WARRANTY OF ANY KIND WHATSOEVER WITH RESPECT TO THEIR ACCURACY OR COMPLETENESS AND ASSUMES NO LIABILITY FOR DAMAGES OR LOSS ARISING DIRECTLY OR INDIRECTLY FROM THEIR USE, WHETHER PROPER OR IMPROPER.**