



CHLORINE Liquified Gas (Cl₂)

PRODUCT SPECIFICATIONS:

Purity (Cl ₂)	: min. % 99,5 (m/m)
Humidity (H ₂ O)	: max. 20 mg/Kg.product
Vapour residual (20 °C)	: max. 200 ppm (m/m)
Nitrogen Trichloride (NCl ₃)	: max. 20 mg/Kg.product
Mercury (Hg)	: max. 0,1 mg/Kg.product
Density (- 34 °C)	: 1,57 g/cm ³

ANALYTICAL METHOD

Volumetric
Gravimetric
Gravimetric
MAS(*)
AAS(**)

*MAS : Molecular Absorbation Spectrometry

**AAS : Atomic Absorbation Spectrometry

PHYSICAL AND CHEMICAL PROPERTIES:

- Chlorine is an irritating, sharp odored, light yellow colored, suffocating gas.
- Being liquidized under pressure chlorine can be delivered in pressure resistant steel cylinders.
- 2,5 times heavier than air. In case chlorine moves where the wind is shy and humidity is high.
- Liquid chlorine is 1,5 times heavier than water.
- One volume liquid chlorine spreads away as 460 volume gas chlorine.
- Liquid or gaseous chlorine is neither flammable nor explosive. However it as it is a strong oxidizer; it reacts quickly with oil, grease and other hydrocarbons. In case of this, the fitting and walves should not exist any grease. Chlorine is not flammable but it supports flames. In high temperatures plenty of metals flare in chlorine. Do not weld, if you are not sure that the equipments containing chlorine are emptied properly.
- The moisture should be gathered when working with copper and steel. Chlorine causes corrosive effect on several metals. To pour water on a chlorine leakage point just causes the point to enlarge.
- The boiling point of chlorine under atmosferic pressure is -34°C.

PACKAGING:

Delivered in steel cylinders manufactured according to standarts applicable for chlorine.

STORAGE:

Chlorine cylinders, full or empty; should be stored in a dry and cool place and kept away from all kinds of sources of heat. Do not store beside elevators or ventilation systems. The places under ground should not be preferred for storage.

The storage temperature must not be over 55°C. These cylinders must be stored away from other compressed gas containers. Do not store near turpentine, ether, hydrocarbons, other flammable substances, ammonia and metal granules. Despite of oxidation risk, keep the warehouse clean.

Should be stored where the daily controls and transportation of the full containers can be done with the least effort. Keep the full and empty containers in different places. Keep small cylinders vertical and bigger ones horizontally.

APPLICATION FIELDS:

Chlorine has a wide range of applications. Some general examples are; paper industry, plastic industry, textile industry, water disinfection and in the production of various organic chemicals.

SECURITY PRECAUTIONS:

When transporting or working with chlorine, wear glasses, masks, gloves, rubber boots and protective clothings.

In case of chlorine leakage;

Follow the instructions given below step by step.

- If the leakage can not be stopped fastly, inform your supplier. If you are not able to find your supplier, call the closest producers.
- A capable, implemented staff having enough equipment must interfere the leakage. Move the other staff over a high place by taking the wind at backside. If the leakage is so thick, take all the staff away.



- To find out the leakage pour ammonia in 26 °Be to the suspicious area. A white smoke exists if there is a leakage. Control all the equipments at least once a day.
- If the leakage is in the equipment or in pipes, close the chlorine input valve and transfer the pressured chlorine to an absorption system.
- If possible, decrease the pressure in container by transferring the gas to process or drainage system. Use an emergency bag. Inform your supplier. If you are not able to find your supplier, call the closest producer and ask for help. It is forbidden to transfer chlorine with a leaking containers.
- Do not use water in chlorine leakages. Never put the chlorine cylinder or container to water or a liquid chemical mass. Prepare an absorption solution containing caustic soda and soda ash in a tank. For emergency reasons keep these chemicals available for preparation of solution. Never put the leaked chlorine cylinder or container to absorption tank.

In case of fire;

- Move the chlorine containers quickly away from fire place. If it is not possible to move them, call the staff in charge of fire.
- Pour water on cold containers after being sure that there is no chlorine leakage. Keep the other staff away from the area.

In case of chlorine leakage;

It is important to take immediate care to the person who is affected by chlorine. Seek for medical care.

Wearing an inspiration protecting equipment remove the patient immediately away from the contaminated area.

If the patient is breathing, lay it down in a comfortable position and keep warm. Hold the head up making an angle of 45° – 60° with the body. Make the patient breath slowly but deeply, and give oxygen immediately.

If the patient is not breathing, give immediate artificial respiration and seek for medical advice. If there is an inspirator, let a specialist to give oxygen. If there is not, seek for an operator and device.

If skin or clothings have contacted with liquid chlorine or chlorined water, take off the clothing and wash the skin with plenty of water and soap. Do not contact with anything unless the medical staff have advised.

A severe irritant for eyes. Symptoms include stinging and burning sensation with excessive tear production. Direct contact with liquid may cause burns, permanent damage and possibly blindness.

If the eyes are effected by high concentration of chlorine gas or liquid chlorine, immediately flush the contaminated eye(s) with lukewarm and gently flowing water for 15 minutes, holding the eyelid(s) open. Seek medical advice. If the medical care is not required in first 15 minutes, keep on washing the eye for an additional 15 minutes. Never try to neutralize chlorine with other chemicals. Do not contact with anything unless the medical staff have advised.

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