

MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTITY			
Chemical Name	Chlorine		
Chemical Formula	Cl <sub>2</sub>		
Synonyms	Disinfectant		
Chemical Classification	Inorganic Gas or Liquid		
Trade Name			
CAS No.	7782-50-5		
U N No.	1017		
Regulated Identification			
Shipping Name	Chlorine		
Hazchem Code	2XE		
Codes / Label	17 is atomic number. Hazard class 2.3, Toxic gases		
Hazardous Waste ID No.			
Hazardous Ingredient Name	CAS No.		
Chlorine	7782-50-5		
2. PHYSICAL / CHEMICAL CHARACTERISTICS			
Physical state	Liquefied compressed gas		
Appearance	Greenish yellow		
Odour	<i>Irritating, Bleach like choking odor</i>		
Solubility	Insoluble in water, soluble in alkalis		
Specific gravity	1.47 at 0 °C		
pH	Not pertinent		
Boiling range / Point	-34 °C		
Melting / Freezing point	-101 °C		
Vapor Density (Air=1)	2.49		
Vapor pressure at 35°C (mm Hg)	>4800 mm Hg at 20°C		
3. FIRE / EXPLOSION HAZARD DATA			
Flammability: No	LEL %	Flash Point (OC) ° C	
TDG Flammability:	UEL %	Flash Point (CC) ° C	
Auto ignition temperature ° C	NA	Combustible Liquid	No

Explosion sensitivity to impact	Stable	Explosive material:	No
Explosion sensitivity to static electricity	Stable	Flammable Material	No
Hazardous Combustion Products	Toxic products	Oxidizer:	Yes
Hazardous Polymerization	Will not occur	Pyrophoric Material	No
		Organic peroxide	No
		Corrosive material	Yes
		Others:	
<b>4. REACTIVITY DATA</b>			
Chemical Stability	Stable		
Incompatibility with other material	<i>Combustible substances, finely divided metals</i>		
Reactivity	<i>Violent reaction with Alcohols, explosive reaction with metals, potentially dangerous reaction with Hydrocarbons, Lewis Acids, Sulfides, Trialkyl Boranes.</i>		
Hazardous Reaction Products	<i>Toxic products are generated when combustible burn in Chlorine.</i>		
<b>5. HEALTH HAZARD DATA</b>			
Routes of entry	Inhalation, ingestion, skin, eyes		
Effects of Exposure / Symptoms	Eyes: Causes eye irritation  <i>Inhalation: Causes sneezing, copious salivation, general excitement, restlessness. High concentration causes respiratory distress and violent coughing, often with retching. Death may result from suffocation.</i>		
Emergency Treatment	Eyes: Flush eyes with plenty of water for several minutes.  <i>Inhalation: Remove the victim to fresh air area, support respiration, and give oxygen, if necessary.</i>		
Oral mouse LD50	Not listed		
STEL	1.0 ppm 3 mg/m <sup>3</sup>		
Odour threshold	0.002 ppm in air and 0.31 ppm in water.		
Permissible Exposure Limit (PEL) as per OSHA	0.5 ppm		
ACGIH Threshold Limit Value(TLV)	0.5 ppm		
<b>NFPA RATINGS</b>			
Health	4	Flammability	0
		Reactivity	0

Label Hazard warning	
6. PREVENTIVE MEASURES	
Handling & Storage Precautions	<i>Store in a cool, dry, relatively isolated well ventilated place. Store in cylinders, pressure vessels, or pipelines.</i>
Personal Protective Equipment	<i>Avoid contact with liquid or vapors. Provide PVC gloves, gumboots, rubber overcoat, head mask, self-contained breathing apparatus</i>
7. EMERGENCY / FIRST AID MEASURES	
Fire extinguishing media	
Special procedure	<i>Keep the containers cool by spraying water if exposed to heat or flame.</i>
Unusual Hazards	<i>Poisonous gases are produced in fire.</i>
Exposure	
First aid measures	<p>Eyes: Flush eyes with plenty of water for several minutes.</p> <p>Inhalation: If inhaled, remove to fresh air. If not breathing or in respiratory distress, clear person's airway and start artificial respiration. With a physician's advice, give supplemental oxygen using a bag-valve mask or manually triggered oxygen supply.</p>
Antidotes / Dosages	<i>There are no specific antidotes for chlorine. Wash the affected area with plenty of water and if chlorine is ingested give milk or butter milk.</i>
Spills	
Steps to be taken	<i>Shut off leaks if without risk. Contain liquid with sand or earth. Prevent the liquid from entering the sewer. Vapors create toxic atmosphere. Knock down vapors with water spray.</i>
Waste disposal method	<i>Neutralize small liquid spillages with soda ash &amp; drain with abundant water. Cover pool with protein foam, so that the release of vapour to atmosphere is low and under control.</i>
8. ADDITIONAL INFORMATION / REFERENCES	
<i>In case of large gas escapes, the presence of cloud can be marked with ammonia with which it will turn into a mist. Run away from the gas clouds in a direction perpendicular to the wind direction. Avoid liquid chlorine from leaking and body contact. Persons with pulmonary diseases should avoid the exposure. Can react to cause fires /</i>	

*explosion on contact with Turpentine, Illuminating gas, Polypropylene, Rubber, Sulfamic Acid, Acetaldehyde, Alcohols. Bring the leaking portion of the cylinder to the uppermost position, so that only the gas escapes and not the liquid.*

9. MANUFACTURERS / SUPPLIERS DATA – We are only chlorine users

Name of the firm	
Contact person in Emergency	
Address	
Telephone / Telefax Nos.	
Local Bodies involved	
Standard Packing	
Trem Card Details / Ref	
Other:	

10. DISCLAIMER

Information contained in this material data sheet is believed to be reliable but not representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer/seller to ensure that the information contained in the material safety data sheet is relevant to the product manufactured/handled or sold by him as the case may be.