

## Chlorine:

Point no. 1 Chemical product synonyms Name of Manufacturing Company	Chemical product and company identification. Chlorine None M/s. Gujarat Alkalies & Chemicals Limited. P.O. Petrochemicals, Dist. Vadodara State – Gujarat, INDIA Telephone No. 2232681, 2232981 –82, 2232039, 2230384 Fax No. 2232130 Pin code no. 391 346
Point No. 2	Composition, Information on ingredients Chlorine
Point No. 3	Hazardous Identification Chlorine, Cl <sub>2</sub> , Gas, poison, Class – 2 CAS No. 7782-50-5, U.N. No. 1017, Hazchem No. 2 X E, Hazardous Waste - I.D. No. 17 NFPA Rating :- Health – 3 Fire – 0 Reactivity - 0
Point No. 4	First Aid Measure Eyes :- Flush eyes with plenty of water under safety shower. Skin :- Remove contaminated cloths. Arrange for medical help, due to irritation. Inhalation :- start artificial respiration to restore breathing. Don't give solids or liquids to unconscious patients, flush body thoroughly if exposed. Remove victim to fresh air area.
Point No. 5	Fire Fighting Measure It is not flammable. containers heated by fire can explode.
Point No. 6	Accidental Release Measures Spilled material to be neutralized with soda ash soln or caustic soda lye or milk of lime. 2.Waste disposal method :- The gas after neutralization is to be drained out is liquid effluent. In case of large spillage (liquid) cover. The pool of chlorine with protein foam so that release to atmosphere is minimum.
Point No. 7	Handling and storage Elaborate written procedures should be followed strictly. All safety equipments must be used. Store in cool, dry and comparatively isolated area, should be stored away from source of heat.
Point No. 8	Exposure controls TLV (ACGIH) 1 ppm 2.9mg/m <sup>3</sup> stel 3 ppm 9mg/m <sup>3</sup> Odour 3.5 10.16 mg/m <sup>3</sup> Threshold ppm Personal Protective equipment :- PVC hand gloves, gas mask with canister, of Chlorine, B.A. Set for high conc. of Chlorine, Safety goggles, safety shoes, PVC over all set.
Point No. 9	Physical and chemical properties Physical state :- Gas/Liquid Appearance :- Greenish yellow

	<p>Odour :- Irritating  Solubility :- in water at 200C, &lt;0.75% other, soluble in alkalis.  vapour density :- (Air = 1), 2.482 at 0<sup>0</sup>C, 1 atm  pH :- Acidic  boiling range/point <sup>0</sup>C :- -34<sup>0</sup>C  Melting/Freezing point :- 101<sup>0</sup>C  Vapour pressure :- 4800 mm Hg at 20<sup>0</sup>C  specific Gravity :- 1.47 at 0<sup>0</sup>C, 3.65 atm (water = 1)</p>
Point No. 10	<p>Stability and Reactivity  Chemical Stability :- stable  Incompatibility with other material :- ether, Turpentine, Hydrogen, metal like Al, water etc.  Reactivity :- (i) violent reaction with alcohols, explosive reaction with metals, potentially dangerous reaction with Hydrogen, Lewis acid etc.  Hazardous reaction products:- Toxic product generated when combustibles burn in Cl<sub>2</sub></p>
Point No. 11	<p>Toxicological information  Route of entry :- Skin contact, skin absorption, eye contact, inhalation, acute, Inhalation – chronic, ingestion.  Effect of exposure/symptoms :- Irritation to skin, mucous membrane of eyes, choking and coughing on Inhalation, affects respiratory system.  Emergency Treatment :- Remove victim to fresh air. Arrange for medical. Otart artificial – respiration to restore breathing. Don't give solids or liquids to unconscious patients. Flush eyes thoroughly if exposed. Remove contaminated cloths and wash with plenty of water under safety shower.</p>
Point No. 12	<p>Ecological information :- Marine pollutant</p>
Point No. 13	<p>Disposal Consideration  Waste disposal method :-  The gas after neutralization is to be drained out is liquid effluent. In case of large spillage (liquid), cover the pool &amp; chlorine with protein foam so that release to atmosphere is minimum.</p>
Point No. 14	<p>Transport information :-  Formula : Cl<sub>2</sub> CAS NO. 7782-50-5 U.N. No. 1017  Regulated shipping identification name:- Chlorine Hazchem No. 2X E,  Code/Label :- non flammable gas, poison, class 2  Hazardous Waste I.D. No. 17</p>
Point No. 15	<p>Regulatory information :-  Hazardous ingredients Chlorine CAS No. 7782 – 50 -5</p>
Point No. 16	<p>Other Information  Information contained in this material data sheet is believed to be reliable but no 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 manufacture/seller to ensure that the information contained in the material safety data sheet is relevant to the product manufacture handled or sold by him as the case may be. The Government makes no warranties, expressed or implied, in respect of the adequacy of this document for any particular purpose.</p>