Chlorine Cl_2

Marking

CAS 7782-50-5

Characterization acc. ADR UN 1017 CHLORINE, 2.3 (5.1) (8), (C/D), ENVIRONMENTALLY HAZARDOUS

Cylinder Marking

Shoulder color: yellow

Essential properties

liquified gas, heavier than air, greenish, pungent, oxidizing, irritant, toxic, toxic to aquatic life

Symbols of risks

For additional safety information see safety data sheet *-CL2-022

Description

Yellow-greenish, toxic, with humidity strong corrosive, liquified gas with sticking odor. Strongly corrosive to skin, eyes and respiratory system. Soluble in water. Apparatus made from metal should be passivated. Supports combustion of flammable and incendiary substances. Reacts strongly with oil and grease. Attacks rubber and most of lubricants, except graphite and silicon.
Acc. to ISO 10298: LC50/1h = 293 ppm.

Materials

Cylinders and Valves: Steel stainless steel, brass; except aluminium(-alloys)
danger of violent reaction with aluminium(-alloys). Under moisty conditions danger of corrosion resp. Hydrogen embrittling; requirements see also Hydrogen chloride.
Seals: PTFE, PCTFE, PVDF, FKM

Physical Properties			
molecular weight	70,906 kg/kmol	**vapour pressure at 20°C**	
critical point		**gas density at 0°C and 1,013 bar**	3,2149 kg/m³
temperature	416,956 K	**density ratio to air**	2,4865
Pressure	79,914 bar	**gas density at 15°C and 1 bar**	3,000 kg/m³
density	0,57678 kg/l	**conversion factor**	
triple point		liquid at Ts to m³ gas (15°C, 1 bar)	
temperature	172,170 K	**virial coefficient**	
Pressure	0,01387 bar	Bn at 0°C	$-15{,}8 \cdot 10^{-3}$ bar^{-1}
boiling point		B30 at 30°C	$-11{,}8 \cdot 10^{-3}$ bar^{-1}
temperature	239,166 K; -34,0 °C	**gaseous state at 25°C and 1 bar**	
liquid density	1,5625 kg/l	specific heat capacity cp	0,485 kJ/kg K
evaporation heat	288,09 kJ/kg	thermal conductivity	$88{,}4 \cdot 10^{-4}$ W/m K
		dynam. viscosity	$13{,}55 \cdot 10^{-6}$ Ns/m²