

Marking

CAS

Characterization acc. ADR

7647-01-0
UN 1050 HYDROGEN
CHLORIDE, ANHYDROUS, 2.3
(8), (C/D)

Cylinder Marking



Shoulder color: yellow

Essential properties

liquified gas, heavier than air, colorless, pungent, corrosive, toxic

Symbols of risks



Physical Properties

molecular weight	36,461 kg/kmol
gas density at 0°C and 1,013 bar	1,6423 kg/m ³
density ratio to air	1,2702
vapour pressure at 20°C	42,6 bar

For additional safety information see safety data sheet *-HCL-069

Valves / Manifolds

Valve connection

acc. to national regulations

Recommended Manifolds

Spectrocem SBE 3 + E 51



Specification / receptacles			
		Hydrogen chloride 2.8	
Composition			
HCl	≥	99.8	Vol.-%
Impurities			
H ₂ O	≤	10	ppmw
inert gases	≤	2,000	ppmw

Remarks

Applications:

Chlorination of rubbers and plastics
Precursor for chlorinated compounds

Delivery only with end user statement!
No delivery to private person!

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Description

Colourless, toxic, strongly hygroscopic, liquified gas with sticking odor. Very corrosive to skin, eyes and respiratory system. In moisty air HCl-gas forms mist from hydrochloric acid droplets. Violent reaction with unsaturated hydrocarbons, ammonia, organic amines and ignoble metals. Acc. to ISO 10298: LC50/1h = 3120 ppm.

Materials

Cylinders and Valves: Steel, stainless steel, Monel, nickel; no brass or copper(-alloys), no aluminium(-alloys)
Normalized / annealed steel only under observance of the demanded max. strength properties if $p_{max} > TP/5$; danger of hydrogen embrittling
Seals: PTFE, PCTFE, PVDF, PE, PVC

Physical Properties			
molecular weight	36,461 kg/kmol	vapour pressure at 20°C	42,6 bar
critical point		gas density at 0°C and 1,013 bar	1,6423 kg/m ³
temperature	324,6 K	density ratio to air	1,2702
Pressure	83,1 bar	gas density at 15°C and 1 bar	1,534 kg/m ³
density	0,45 kg/l	conversion factor	
triple point		liquid at Ts to m ³ gas (15°C, 1 bar)	1,288
temperature	158,96 K	virial coefficient	
Pressure	0,138bar	Bn at 0°C	-9,3*10 ⁻³ bar ⁻¹
boiling point		B30 at 30°C	-6,4*10 ⁻³ bar ⁻¹
temperature	188,12 K; -85,0 °C	gaseous state at 25°C and 1 bar	
liquid density	1,1906 kg/l	specific heat capacity cp	0,7987 kJ/kg K
evaporation heat	443 kJ/kg	thermal conductivity	139*10 ⁻⁴ W/m K
		dynam. viscosity	14,60*10 ⁻⁶ Ns/m ²