

monosilane, hydrosilicon

**Marking****CAS**7803-62-5  
UN 2203 SILANE, 2.1,(B/D)**Characterization acc. ADR****Cylinder Marking**

Shoulder color: red

**Essential properties**

liquified gas, heavier than air, colorless, odorless, flammable

**Symbols of risks**

For additional safety information see safety data sheet \*-SIH4-107

**Description**

Colourless, self-igniting, toxic gas. In air silane incinerates to hydrogen containing silicon-oxygen compounds; surplus of oxygen leads to white SiO<sub>2</sub>. While handling of silane attention has to be paid on strictly exclusion of oxygen in the used apparatus. Reacts with bases under release of hydrogen and formation of the corresponding silicates (disposal of residual silane).

**Materials**

Cylinders and valves: any usual materials.

Normalized / annealed steel only under observance of the required max. strength properties; danger of hydrogen embrittlement.

Seals: PTFE, PCTFE, PVDF, IIR, CR, FKM, EPDM

Physical Properties			
<b>molecular weight</b>	32,1171 kg/kmol	<b>vapour pressure at 20°C</b>	
<b>critical point</b>		<b>gas density at 0°C and 1,013 bar</b>	1,44 kg/m <sup>3</sup>
temperature	269,7 K	<b>density ratio to air</b>	1,1161
Pressure	48,448 bar	<b>gas density at 15°C and 1 bar</b>	1,35 kg/m <sup>3</sup>
density		<b>conversion factor</b>	
<b>triple point</b>		liquid at Ts to m <sup>3</sup> gas (15°C, 1 bar)	
temperature	86,75 K	<b>virial coefficient</b>	
Pressure		Bn at 0°C	-7*10 <sup>-3</sup> bar <sup>-1</sup>
<b>boiling point</b>		B30 at 30°C	-5*10 <sup>-3</sup> bar <sup>-1</sup>
temperature	161,8 K; -111 °C	<b>gaseous state at 25°C and 1 bar</b>	
<b>liquid density</b>	0,5828 kg/l	specific heat capacity cp	1,3314 kJ/kg K
evaporation heat	363 kJ/kg	thermal conductivity	178*10 <sup>-4</sup> W/m K
		dynam. viscosity	9,93*10 <sup>-6</sup> Ns/m <sup>2</sup> (0 °C)