

Deuterium

D₂

also: heavy hydrogen

PURE GASES

Marking

CAS-Number 7782-39-0

Characterization acc. ADR UN 1957, Deuterium, compressed, 2.1
Class 2, 1F

Cylinder Marking



shoulder:
red

Essential properties

Colourless, odorless, flammable gas, compressed, very much lighter than air

Symbols of Risks



highly flammable



gas, compressed

Physical Properties

molecular weight: 4,028 kg/kmol
gas density at 0°C and 1,013 bar: 0,1796 kg/m³
density ratio to air: 0,1389

For additional safety information see Material-/safety data sheet No. *-D2-039

Valves / Manifolds

Valve connection acc. to national standards

Recommended Manifolds Spectrolab FM 51 / FM 52exact
Spectrocem FE 51 / FE 52exact



Specifications / Cylinders

Specifications / Cylinders		
		2.7
Composition		
D ₂	>	99,7 Gew.-%
Impurities		
Cylinders / Contents		
F 2		100 I
F 10		1800 I
F 50		8900 I

Remarks

Delivery only with ultimate consumers declaration!
No delivery to private person!

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Description

Stable natural isotope of hydrogen. Colourless, odorless, flammable gas. Forms explosive mixtures in air. Very much lighter than air. At high emanating velocities danger of self-ignition.

detection Detector for flammable gases

Safety data

Explosion Range	4 - 77 Vol. %
Ignition Temperature	560 °C

Materials

Cylinders and Valves: any usual materials normalized / hardened and tempered steels only under observance of the demanded maximum strength properties; danger of hydrogen embrittling
Seals: PCTFE, PVDF, PA

Physical Properties

molecular weight	4,028 kg/kmol	vapour pressure at 20°C	
Critical Point		gas density at 0°C and 1,013 bar	0,1796 kg/m ³
temperature	38,30 K	density ratio to air	0,1389
Pressure	16,65 bar	gas density at 15°C and 1 bar	0,1680 kg/m ³
density	0,0674 kg/l	Conversion Factor	
Triple Point		liquid at Ts to m ³ gas (15°C, 1 bar)	
temperature	18,72 K	Virial Coefficient	
Pressure	0,171 bar	Bn at 0°C	0,584*10 ⁻³ bar ⁻¹
Boiling Point		B30 at 30°C	0,555*10 ⁻³ bar ⁻¹
temperature	23,65 K; -250 °C	Gaseous State at 25°C and 1 bar	
liquid density		specific heat capacity cp	7,2493 kJ/kg K
evaporation heat	304 kJ/kg	thermal conductivity	1310*10 ⁻⁴ W/mK
		dynam. viscosity	-