Balloon gas He

Marking

CAS 7440-59-7

Characterization acc. ADR UN 1046 HELIUM, COMPRESSED, 2.2, (E)

Cylinder Marking

Shoulder color: brown

Essential properties

compressed gas, lighter than air, colorless, odorless

Symbols of risks

Physical Properties

molecular weight	4,0026 kg/kmol
gas density at 0 °C and 1,013 bar	0,1785 kg/m³
density ratio to air	0,1380

For additional safety information see safety data sheet *-HE-061A

Valves / Manifolds

Valve connection acc. to national regulations

Recommended Manifolds special balloon gas valve

Specification / receptacles			
		Balloon gas	
Composition			
He	=	-	Vol.-%
Cylinder / Contents			
F 10 200 bar		1.8	m³
F 20 200 bar		3.7	m³
F 30 200 bar		5.5	m³
F 50 200 bar		9.2	m³
F 50 300 bar		13.2	m³

Remarks

Application:
Filling gas for balloons

Contents in m³ at 15 °C, 1 bar

MESSER Gases for Life
Messer Group GmbH
Messer-Platz 1
65812 Bad Soden
https://www.messergroup.com

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Description

Colourless, odorless rare gas. Very much lighter than air. In closed rooms the breathing air is displaced (danger of asphyxiation). The inhalation of the gas effects a rise in the frequency of voice (Mickey-Mouse-effect).

Materials

Cylinders and Valves: any usual materials
Seals: PCTFE, PVDF, PA, PP, IIR, NBR, CR, FKM, EPDM

Physical Properties			
molecular weight	4,0026 kg/kmol	**vapour pressure at 20°C**	
critical point		**gas density at 0°C and 1,013 bar**	0,1785 kg/m³
temperature	5,2014 K	**density ratio to air**	0,1380
Pressure	2,2746 bar	**gas density at 15°C and 1 bar**	0,1673 kg/m³
density	0,06964 kg/l	**conversion factor**	
triple point		liquid at Ts to m³ gas (15°C, 1 bar)	
temperature	2,177 K	**virial coefficient**	
Pressure	0,05035 bar	Bn at 0°C	$0{,}53*10^{-3}$ bar^{-1}
boiling point		B30 at 30°C	$0{,}47*10^{-3}$ bar^{-1}
temperature	4,224 K, -269 °C	**gaseous state at 25°C and 1 bar**	
liquid density	0,1250 kg/l	specific heat capacity cp	5,19412 kJ/kg K
evaporation heat	20,413 kJ/kg	thermal conductivity	$1500*10^{-4}$ W/m K
		dynam. viscosity	$19{,}68*10^{-6}$ Ns/m²

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