Krypton Kr

Marking

CAS 7439-90-9

Characterization acc. ADR UN 1056 KRYPTON, COMPRESSED, 2.2, (E)

Cylinder Marking

Shoulder color: bright green

Essential properties

compressed gas, heavier than air, colorless, odorless

Symbols of risks

Physical Properties

molecular weight	83,80 kg/kmol
gas density at 0 °C and 1,013 bar	3,7491 kg/m³
density ratio to air	2,8997

For additional safety information see safety data sheet *-KR-077A

Valves / Manifolds

Valve connection acc. to national regulations

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

Specification / receptacles				
		Krypton 4.0	Krypton 5.0	
Composition				
Kr	≥	99.99	99.999	Vol.-%
Impurities				
Ar	≤	10	-	ppmv
CF_4	≤	-	1	ppmv
O_2	≤	2	-	ppmv
H_2	≤	-	0.5	ppmv
N_2	≤	20	2	ppmv
Xe	≤	50	2	ppmv
HC (as CH_4)	≤	1	0.5	ppmv
H_2O	≤	5	2	ppmv
O_2 + Ar	≤	-	1.5	ppmv
CO + CO_2	≤	-	1	ppmv
Cylinder / Contents				
F 10 2000L		2.0	-	m³
F 10 2000l		-	2.0	m³
F 50 10.000l		10.0	10.0	m³

Remarks

Applications:
lighting
filling gas for windows (insulating gas)
laser technology

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. In closed rooms the breathing air is displaced (danger of asphyxiation!). Under special conditions krypton may react with fluorine to the unstable compounds kryptondi- resp. -tetrafluoride.

Materials

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

Physical Properties			
molecular weight	83,80 kg/kmol	**vapour pressure at 20°C**	
critical point		**gas density at 0°C and 1,013 bar**	3,7491 kg/m³
temperature	209,4 K	**density ratio to air**	2,8997
Pressure	55,02 bar	**gas density at 15°C and 1 bar**	3,506 kg/m³
density	0,919 kg/l	**conversion factor**	
triple point		liquid at Ts to m³ gas (15°C, 1 bar)	
temperature	115,777 K	**virial coefficient**	
Pressure	0,73055 bar	Bn at 0°C	$-2{,}74 \cdot 10^{-3}$ bar^{-1}
boiling point		B30 at 30°C	$-1{,}95 \cdot 10^{-3}$ bar^{-1}
temperature	119,802 K; -153 °C	**gaseous state at 25°C and 1 bar**	
liquid density	2,413 kg/l	specific heat capacity cp	0,24809 kJ/kg K
evaporation heat	107,41 kJ/kg	thermal conductivity	$95{,}1 \cdot 10^{-4}$ W/m K
		dynam. viscosity	$25{,}5 \cdot 10^{-6}$ Ns/m²

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