

Marking

CAS-Number	7782-44-7
Characterization acc. ADR	UN 1072, Oxygen, compressed, 2.2 (5.1) Class 2, 1 O

Cylinder Marking

shoulder:
white

Essential properties

Colourless, odorless, oxidizing gas, compressed, slightly heavier than air.

Symbols of Risks

oxidizing



gas, compressed

Physical Properties

molecular weight:	31,9988 kg/kmol
gas density at 0°C and 1,013 bar:	1,429 kg/m ³
density ratio to air:	1,1052

For additional safety information see Material-/safety data sheet No. *-O2-097A

Valves / Manifolds

Valve connection	200 bar: acc. to national standards 300 bar: ISO 5145 No. 7;
Recommended Manifolds	Spectrolab FM 51 / FM 52exact

**Specifications / Forms of delivery**

		4.5	5.0	5.5	
Composition					
O ₂	>	99,995 <small>(incl. rare gases)</small>	99,999 <small>(incl. rare gases)</small>	99,9995 <small>(incl. rare gases)</small>	Vol.-%
Impurities					
H ₂ O	<	5	2	0,5	ppmv
N ₂	<	20	5	1,3	ppmv
THC (as CH ₄)	<	0,5	0,2	0,1	ppmv
CO + CO ₂	<	0,5	0,4	0,2	ppmv
Cylinders / Contents					
F 10 200 bar		2,1	2,1	2,1	m ³
F 50 200 bar		10,7	10,7	10,7	m ³
B 12* F 50 200 bar		128,3	-	-	m ³

Remarks

Applications:
Oxidizing gas for special analytical processes (e.g. total organic carbon [TOC]), also in automotive industries

Marking

CAS-Number	7782-44-7
Characterization acc. ADR	UN 1072, Oxygen, compressed, 2.2 (5.1) Class 2, 1 O

Cylinder Marking

shoulder:
white

Essential properties

Colourless, odorless, oxidizing gas, compressed, slightly heavier than air.

Symbols of Risks

oxidizing



gas, compressed

For additional safety information see Material-/safety data sheet No. *-O2-097A

Description

Colourless, odorless, oxidizing gas. Liquid Oxygen is slightly blue coloured. May react violently with organic materials, e.g. grease and oil, even at room temperature.

detection Oxygen measuring equipment

Materials

Cylinders and valves: copper, brass, stainless steel, (steel)

Use no oil or grease! Valves have to be proved for heat-resistance under working conditions.

Seals: acc. to applicability test (PTFE)

Physical Properties			
molecular weight	31,9988 kg/kmol	vapour pressure at 20°C	
Critical Point		gas density at 0°C and 1,013 bar	1,429 kg/m ³
temperature	154,481 K	density ratio to air	1,1052
Pressure	50,422 bar	gas density at 15°C and 1 bar	1,337 kg/m ³
density	0,4361 kg/l	Conversion Factor	
Triple Point		liquid at Ts to m ³ gas (15°C, 1 bar)	0,8534
temperature	54,359 K	Virial Coefficient	
Pressure	0,00149 bar	Bn at 0°C	-0,97*10 ⁻³ bar ¹
Boiling Point		B30 at 30°C	-0,60*10 ⁻³ bar ¹
temperature	90,19 K; -183 °C	Gaseous State at 25°C and 1 bar	
liquid density	1,1410 kg/l	specific heat capacity cp	0,9196 kJ/kg K
evaporation heat	212,5 kJ/kg	thermal conductivity	261,5*10 ⁻⁴ W/m K
		dynam. viscosity	20,5*10 ⁻⁶ Ns/m ²