

**Marking**

<b>CAS-Number</b>	7782-44-7
<b>Characterization acc. ADR</b>	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 <sup>3</sup>
density ratio to air:	1,1052

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

**Valves / Manifolds**

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

**Specifications / Forms of delivery**

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

**Remarks**

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

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