

R290

Propane C₃H₈

Commercial Specifications

STANDARD SPECIFICATIONS	LIMIT VALUE
Purity	≥ 99,5% weight
Total polyolefins C3 – C4 – C5	≥ 0,05% weight
Other volatile impurities	≤ 0,5% weight*
High boiling residues	≤ 0,01% weight
Non-condensable content (gas phase)	≤ 1,5% volume at 25 °C
Water content	≤ 10 mg/Kg
Odour of sulphur	Odourless
Total acidity (HCL)	≤ 1 ppm weight
Particles/Solides	Clair

**of which 2% other C3 – C4 saturated hydrocarbons allowed.*

Main applications

High purity Propane (R290) is required for refrigeration applications. R290 is mainly used in small hermetic/integral systems.

Oil

Use a mineral oil (MO), alkylbenzene (AB) or polyalphaolefin (PAO).

Check the viscosity of the oil selected for your application, and the miscibility with the fluid under consideration.

Precautions of use

Refer to the Safety Data Sheet*.

Regulation

R290 is classified as an extremely flammable product (A3).

Refer to the ERP of 14th February 2000 published in the Official Journal of 21st March 2000. Refer to the regulations in force in the country and/or State concerned.

**The Safety Data Sheet (SDS) could be requested, after P.O., at laboratorio@mariel.it*



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R290 PHYSICAL PROPERTIES

Molar mass	g/mol	44,10
Melting point	°C	-187,62
Boiling point (at 1,013 bar)	°C	-42,12
Temperature glide at 1,013 bar	K	0
Saturated liquid density 25 °C (77 °F)	Kg/m ³	492
Saturated vapour density at boiling point	Kg/m ³	2,416
Vapour pressure at: 25 °C (77 °F) 50 °C (122 °F)	bar bar	9,52 17,13
Critical temperature	°C	96,70
Critical pressure	bar	42,51
Critical density	Kg/m ³	220
Latent heat of vaporisation at boiling point	kJ/kg	425,60
Thermal conductivity at 25 °C (77 °F) <i>Liquid</i> <i>Vapour at 1,013 bar</i>	W/m.K W/m.K	0,094 0,018
Surface tension at 25 °C	10 ⁻³ N/m	7,02
Viscosity at 25 °C <i>Liquid</i> <i>Vapour at 1,013 bar</i>	10 ⁻³ Pa.s 10 ⁻³ Pa.s	0,097 0,008
Specific heat at 25 °C <i>Liquid</i> <i>Vapour at 1,013 bar</i>	kJ/(kg.K) kJ/(kg.K)	2,719 1,685
Cp/Cv ratio at 25° C (77 °F) at 1,013 bar		1,136
Flammability in air		Non-flammable
Flash point	°C	-104
NF-EN 378 Classification		A3
ASHRAE Classification		A3
Ozone Depletion Potential	(R-11 = 1)	0
GWP	(CO ₂ = 1)	3/3 IPCC AR4 3/3 IPCC AR5

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