Propene C_3H_6

also: Propylene

PURE GASES

Marking

CAS-Number 115-07-1

Characterization acc. ADR UN 1077, Propene, 2.1
Class 2, 2F

Cylinder Marking  shoulder: red

Essential properties

Colourless, flammable gas, liquified, heavier than air

Symbols of Risks

highly flammable

gas, liquified

Physical Properties

molecular weight:	42,080 kg/kmol
gas density at 0°C and 1,013 bar:	1,9138 kg/m³
density ratio to air:	1,4802
vapour pressure at 20°C:	10,199 bar

For additional safety information see Material-/safety data sheet No. *-C3H6-105

Valves / Manifolds

Valve connection acc. to national standards

Recommended Manifolds Spectrolab control valve PN 40

Specifications / Cylinders			
		2.5	
Composition			
C_3H_6	>	99,5	Vol.-%
Impurities			
C_3H_8	<	4000	ppmv
other HC	<	1000	ppmv
Cylinders / Contents			
F 27		11,0	kg
F 79		33,0	kg

Remarks

Applications:
Feedstock for polypropylene
Precursor for acetone, isopropanol, acrylonitrile and other organic compounds

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Description

Colourless, highly flammable, liquified gas. Forms explosive mixtures in air. Violent reactions with strong oxidizers. Catalytic polymerisation.

detection detector for flammable gases

Safety data

Explosion Range	1,8 - 11,2 Vol.%
Ignition Temperature	485 °C

Materials

Cylinders and valves: any usual materials
Seals: PTFE, PCTFE, PVDF, PP

Physical Properties

molecular weight	42,080 kg/kmol	**vapour pressure at 20°C**	10,199 bar
Critical Point		**gas density at 0°C and 1,013 bar**	1,9138 kg/m³
temperature	365,57 K	**density ratio to air**	1,4802
Pressure	46,646 bar	**gas density at 15°C and 1 bar**	1,755 kg/m³
density	0,22339 kg/l	**Conversion Factor**	
Triple Point		liquid at Ts to m³ gas (15°C, 1 bar)	
temperature	87,89 K	**Virial Coefficient**	
Pressure	$9,5*10^{-9}$ bar	Bn at 0°C	$-18,7*10^{-3}$ bar^{-1}
Boiling Point		B30 at 30°C	$-13,4*10^{-3}$ bar^{-1}
temperature	225,46 K; -47,7 °C	**Gaseous State at 25°C and 1 bar**	
liquid density	0,60941 kg/l	specific heat capacity cp	1,5306 kJ/kg K
evaporation heat	439,5 kJ/kg	thermal conductivity	$170*10^{-4}$ W/m K
		dynam. viscosity	$8,5*10^{-6}$ Ns/m²

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