

1-BUTENE

CAS NO.

106-98-9

APPLICATIONS & PROPERTIES

1-Butene is an unsaturated hydrocarbon (olefin), a colorless, inflammable gas with a characteristic odor that is easily condensable under pressure.

TRANSPORT & LOGISTICS

1-Butene is stored and transported as liquefied gas. The delivery takes place in rail tank cars, tower tanks (containers), road tankers, sea-going vessels.

APPLICATION FIELDS

1-Butene find versatile use as a comonomer. Especially in the manufacturing of polyethylene (LLDPE, HDPE), co-polymers with ethylene / propylene or other alkylation products.

As intermediates, such as sec-butanol, butene oxide or amyl alcohol are other applications accessible. These include anti-oxidants, plasticizers, herbicides, corrosion inhibitors or additives for lubricating and hydraulic oils.

PHYSICAL PROPERTIES (LITERATURE DATA)

Property	Value (approx.)	Unit
Molar mass (C_4H_8)	56,11	g/mol
Density, based on air under normal conditions	2,01	-
Boiling point at 1013 mbar	- 6,3	°C
Critical temperature	146,4	°C
Critical pressure	40,2	bar
Specific heat (gaseous 25 °C)	1,51	kJ/kg K
Specific heat (liquid at boiling point)	2,30	kJ/kg K

SPECIFICATION

Property	Value	Unit	Method
1-Butene	min. 99,6	% (m/m)	AA-0785-04-010 ⁴⁾
iso-Butene	max. 0,2	% (m/m)	AA-0785-04-010 ⁴⁾
2-Butene	max. 0,05	% (m/m)	AA-0785-04-010 ⁴⁾
Butane	max. 0,2	% (m/m)	AA-0785-04-010 ⁴⁾
1,3-Butadiene	max. 30	mg/kg	AA-0785-04-011 ⁴⁾
Carbon monoxide CO	max. 0,5	ml/m ³	AN-SAA 0327 ⁴⁾
Carbon dioxide CO ₂	max. 1	ml/m ³	AN-SAA 0327 ⁴⁾
Acetylene ¹⁾	max. 5	mg/kg	AN-SAA-1794 ⁴⁾
Carbonyl ²⁾	max. 2	mg/kg	AN SAA 0712 ⁴⁾
Alcohols ³⁾	max. 1	mg/kg	AN-SAA 0294 ⁴⁾
Oxygen	max. 1	mg/kg	SOP-1453
Sulfur	max. 1	mg/kg	DIN/EN 24260
Chlorine	max. 1	mg/kg	DIN 51 408/1
Water	max. 10	mg/kg	AA-0785-04-033 ⁴⁾

¹⁾ calculated as Vinylacetylene ²⁾ calculated as Butyraldehyde ³⁾ calculated as Methanol ⁴⁾ in-house method

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