

1,3-BUTADIENE

CAS NO.

106-99-0

APPLICATIONS & PROPERTIES

1,3-Butadiene is a colorless, inflammable gas with a characteristic odor that is easily condensable under pressure.

PRODUCT SPECIFIC FEATURE

1,3-Butadiene has a strong tendency to polymerize, therefore a stabilizer (TBC) is added on the production side. It is recommended to avoid storage temperatures above 25 °C. 1,3-Butadiene is classified as highly inflammatory, carcinogenic and can cause inheritable damage.

APPLICATION FIELDS

1,3-Butadiene is a versatile starting material:

- Manufacturing of synthetic rubbers
- Manufacturing of hexamethylenediamine
- Manufacturing of tetrahydrophthalic anhydride
- Co-polymerization with acrylonitrile and styrene to thermoplastical synthetics

TRANSPORT & LOGISTICS

1,3-Butadiene is stored and transported as liquefied gas. The delivery takes place in tank containers, tank cars, rail tank cars, barges and sea-going vessels.

PHYSICAL PROPERTIES (LITERATURE DATA)

Property	Value (approx.)	Unit
Molar mass (C_4H_6)	54,09	g/mol
Density, based on air under normal conditions	1,92	-
Boiling point at 1013 mbar	- 4,5	°C
Critical temperature	152,0	°C
Critical pressure	40,2	bar

SPECIFICATION

Property	Value	Unit	Method
1,3-Butadiene	min. 99,6	% (m/m)	B2643-AA 04-010 *
Cis-Butene-2	max. 0,4	% (m/m)	B2643-AA 04-010 *
Alkynes (total)	max. 15	mg/kg	B2643-AA 04-010 *
1,2-Diene (total)	max. 20	mg/kg	B2643-AA 04-010 *
Dimeres (Vinylcyclohexene)	max. 200	mg/kg	B2643-AA 04-011 *
N-Methyl-pyrrolidone	max. 5	mg/kg	B2643-AA 04-012 *
Carbonyl (as Acetaldehyde)	max. 10	mg/kg	AN-SAA-0712 *
Alcohols (Methanol)	max. 10	mg/kg	B2643-AA 04-011 *
Sulfur (as H ₂ S)	max. 1	mg/kg	EN DIN 24266
Peroxides (as H ₂ O ₂)	max. 1	mg/kg	B2643-AA 04-041 *
Evaporation residue	max. 10	mg/kg	B2643-AA 04-043 *
Water	max. 100	mg/kg	B2643-AA 04-059 *
Tert-Butylcatechol	75 - 150	mg/kg	B2643-AA 04-042 *

* in-house method

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