

## Butadiene

**Description:**

**Other typical names:** 1,3-butadiene

**Overview:** butadiene is a synthetic, colorless gas that is practically insoluble in water and soluble in ethanol, ether, acetone and benzene. It is a conjugated diene with the formula  $C_4H_6$ . It is used as a monomer in the production of synthetic rubber.

**Nº CAS:** 106-99-0

**Nº ONU:** UM 1010

**Risl Class:** 2.1

**R:** 239

**Applications:**

Polybutadiene, SBR, Rubber, NBR, Rubber Parts

**Specification - BA**

Feature	Method	Units	Values
Purity	Due to the difference in impurities	% mass	99.5
Butanes and Butene	ASTM D2593	% mass	report
Butadiene-1,2	ASTM D2593	ppm mass	10 max.
Methyl Acetylene	ASTM D2593	ppm mass	report
Ethyl Acetylene	ASTM D2593	ppm mass	10 max.
Vinyl Acetylene	ASTM D2593	ppm mass	report
Total Acetylenes	ASTM D2593	ppm mass	20 max.
Propadiene	ASTM D2593	ppm mass	5 max.
C5s+ Hydrocarbons	ASTM D2593	ppm mass	100 max.
Carbonyl Compounds with Acetaldehydes	ASTM D4423	ppm mass	10 max.
Non-volatile Residue	ASTM D1025	ppm mass	100 max.
Peroxide with Active Oxygen	ASTM E298	ppm mass	2 max.
TBC	ASTM D1157	ppm mass	50 -100
Total Sulfur as H <sub>2</sub> S	ASTM D6667/ ASTM D5504	ppm mass	5 max.
Dimers	ASTM D2593	ppm mass	200 max.
Atomic Nitrogen	ASTM D4629/ Braskem Method	ppm mass	10 max.

DEHA (Diethylhydroxylamine)	Braskem Method	ppm mass	5 max.
DMA (Dimethylamine)	Braskem Method	ppm mass	report

### Specification - RS

Feature	Method	Units	Values
1,3 Butadiene	Calculation	% mol	99.5
1,2 Butadiene	ASTM D2593	ppm mol	20 max.
Total Acetylenes	ASTM D2593	ppm mol	100 max.
Propadiene	ASTM D2593	ppm mol	5 max.
Carbonyl Compounds with Acetaldehydes	ASTM D4423	ppm mass	20 max.
Non-volatile Residue	ASTM D1025	ppm mass	200 max.
Peroxide with Active Oxygen	ASTM E298	ppm mass	2 max.
TBC	ASTM D1157	ppm mass	50 - 150
Total Sulfur	ASTM D6667/ ASTM D5504	ppm mol	5 max.
Dimers	ASTM D2593	ppm mass	500 max.
Ethylacetylene	ASTM D2593	ppm mol	50 max.

### Specification - SP

Feature	Method	Units	Values
Purity	ASTM D2593	% mass	99.5
1,2 Butadiene	ASTM D2593	ppm mass	20 max.
Total Acetylenes	ASTM D2593	ppm mol	30 max.
Propadiene	ASTM D2593	ppm mol	5 max.
NMP (Solvent)	ASTM D4291	ppm mass	10 max.
Oxygen (Vapor Phase)	Braskem Method	% vol	0.3 max
Peroxides	ASTM D5799	ppm mass	5 max.
TBC	ASTM D1157	ppm mass	100 - 150
Sulfur	ASTM D6667	ppm mass	5 max.
Dimers (with VCH)	ASTM D2426	ppm mass	500 max.
Carbonyl Compounds with Acetaldehydes	ASTM D4423	ppm mass	20 max.
Free Water	Visual	-	free
Non-volatile Residue	ASTM D1025	ppm mass	200 max.
Alcohol	Braskem Method	ppm mass	10 max.