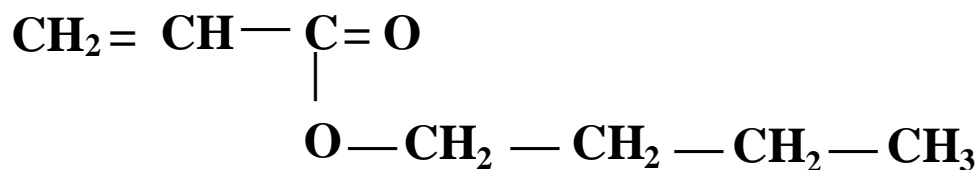


Butyl Acrylate (BA)

CAS #: 141-32-2

EINECS #: 205-480-7

CHEMICAL FORMULA



Molecular weight: 128

OTHER NAMES

Acrylic acid butyl ester
2-Propenoic acid butyl ester

SPECIFICATIONS

<u>Characteristic</u>	<u>Test Method</u>	<u>Limit</u>
Purity	GC	99.5 % (min)
Appearance	Visual	C.F.S.M.
Color	ASTM D1209	10 PT-CO (max)
Inhibitor Concentration	ASTM D3125	10 – 20 ppm MEHQ
Water Content	ASTM D1364	400 ppm (max)
Acidity (as Acrylic Acid)	ASTM D1613	90 ppm (max)

Butyl Acrylate

MAIN PHYSICAL CHARACTERISTICS

Molecular weight	128
Boiling point, at 1013 mbar	147°C
Freezing point	-64 °C
Specific gravity	at 20°C0.898 at 25°C 0.894
Refractive index, nD	at 20°C 1.419 at 25°C 1.416
Viscosity	at 20°C 0.900 m Pa.s at 25°C 0.808 mPa.s
Solubility	water in BA at 20°C 0.7 g/100 g BA in water at 20°C 0.2g/100 g
Specific heat in liquid state	1.96 kJ/kg°C
Latent heat of vaporization	297 kJ/kg
Heat of polymerization	604 kJ/kg
Homopolymer glass transition temperature	-54°C
Flash point	in open cup 48°C in closed cup 39°C
Lower explosion limit in volume	1.5%
Vapor pressure	at 20°C5.3 mbar at 30°C 10 mbar at 50°C 29 mbar
Auto-ignition temperature	297°C

CHEMICAL PROPERTIES

- Addition reactions to the double bond.
- Ability to polymerize and copolymerize.
- Values for the copolymerization reactivity ratios r_1 , r_2 of butyl acrylate (M_1) with various monomers (M_2) have been calculated using the Alfrey & Price formula:

Styrene	$r_1 = 0.07$	$r_2 = 0.45$
Methyl methacrylate ...	$r_1 = 0.34$	$r_2 = 1.92$
Vinyl acetate.....	$r_1 = 4.95$	$r_2 = 0.04$

HANDLING AND SAFETY

Carefully read the safety data sheet.

PACKAGING AND STORAGE

Butyl acrylate is delivered:

- in carbon steel railcars, capacity 90 tons
- in 45,000 pound stainless steel tank trucks
- in 400 pound steel drums

The standard inhibitor level is 15 ppm Monomethyl Ether of HydroQuinone (MEHQ).

With this inhibitor, the product should be stored at a temperature of no more than 25 °C and away from light. It must also be stored under air atmosphere, as the presence of oxygen is essential to maintain the inhibitor effectiveness.

Under these conditions, the product is commercially guaranteed for six months after delivery.

Butyl Acrylate is a flammable product, and the appropriate precautions must be taken in handling it.

USES

Butyl acrylate is used in the composition of copolymers, with various industrial applications, such as:

- resins and dispersions for paints, varnishes and inks, glues and adhesives
- aqueous dispersions for non-woven fabrics, textiles, paper and leather
- cleaning and waxing products
- plastics and synthetic resins
- synthetic rubbers and latexes
- organic synthesis

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See SDS for Health & Safety Considerations
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