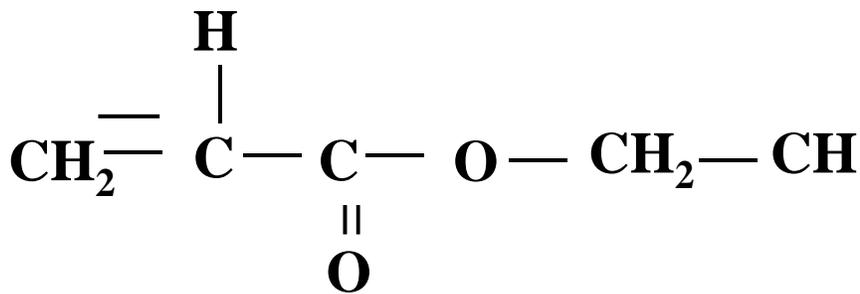


Ethyl Acrylate (EA)

CAS #: 140-88-5

EINECS #: 205-438-8

CHEMICAL FORMULA



Molecular weight: 100

OTHER NAMES

Acrylic acid ethyl ester
2-Propenoic acid, ethyl 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	500 ppm (max)
Acidity (as Acrylic Acid)	ASTM D1613	90 ppm (max)

Ethyl Acrylate

MAIN PHYSICAL CHARACTERISTICS

Molecular weight	100
Boiling point, at 1013 mbar	100°C
Freezing point.....	-72 °C
Specific gravity	at 20°C0.92 2 at 25°C0.916
Refractive index, n _D	at 20°C1.407 at 25°C1.404
Viscosity	at 20°C0.560 mP a.s at 25°C0.530 mPa.s
Solubility	water in EA at 20°C1.24 g/100 g EA in water at 20°C1.5 g/1 00 g
Specific heat in liquid state	1.96 kJ/kg°C
Latent heat of vaporization	347 kJ/kg
Heat of polymerization	777 kJ/kg
Homopolymer glass transition temperature	-24°C
Flash point	closed cup 9°C (4 8°F)
Lower explosion limit in volume	1.4%
Vapor pressure	at 20°C40 mbar at 30°C67 mbar at 50°C160 mbar
Auto-ignition temperature	399°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 ethyl acrylate (M_1) with various monomers (M_2) have been calculated using the Alfrey & Price formula:

Styrene	$r_1 = 0.41$	$r_2 = 0.85$
Methyl methacrylate ...	$r_1 = 0.67$	$r_2 = 1.32$
Vinyl acetate.....	$r_1 = 18.10$	$r_2 = 0.04$

HANDLING AND SAFETY ADVISES

Carefully read the material safety data sheet.

PACKAGING AND STORAGE

Ethyl 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.

Ethyl acrylate is a highly flammable product, and the appropriate precautions must be taken in handling it.

USES

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

- aqueous dispersions for non-woven fabrics, textiles and leather
- cleaning and waxing products
- plastics and synthetic resins
- synthetic rubbers and latexes
- thickeners
- organic synthesis

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See SDS for Health & Safety Considerations
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