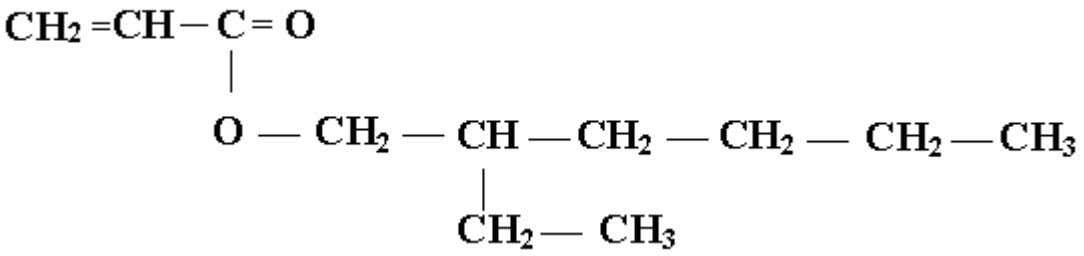
2-Ethylhexyl Acrylate (2EHA)

CAS # : 103-11-7 **EINECS # : 203-080-7**

CHEMICAL FORMULA



Molecular weight: 184

OTHER NAMES

Acrylic acid 2-ethylhexyl ester
2-Propenoic acid, 2-ethylhexyl ester

SPECIFICATIONS

Characteristic	Test Method	Limit
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	100 ppm (max)

ARKEMA
INNOVATIVE CHEMISTRY

2-Ethylhexyl Acrylate

MAIN PHYSICAL CHARACTERISTICS

Molecular weight 184

Boiling point, at 1013 mbar ..... 213.5℃

Freezing point ..... -90 ℃

Specific gravity at 20℃ 0.8 85
at 25℃ 0.880

Refractive index, n_D at 20℃ 1.435
at 25℃ 1.433

Viscosity at 20℃ .....1.67 mPa.s
at 25℃ .....1.52 mPa.s

Solubility water in 2EHA at 20℃..... 0.14 g/100 g
2EHA in water at 20℃ ..... 0.1 g/100 g

Specific heat in liquid state ..... 1.92 kJ/kg℃

Latent heat of vaporization ..... 234 kJ/kg

Heat of polymerization ..... 329 kJ/kg

Homopolymer glass transition temperature .... -70° C

Flash point in open cup ..... 92° C
in closed cup ..... 85° C

Lower explosion limit in volume 0.9%

Vapor pressure at 20℃ ..... < 1 mbar
at 30℃ ..... < 1 mbar
at 50℃ ..... 1.6 mbar

Auto-ignition temperature ..... 250℃

CHEMICAL PROPERTIES

- Addition reactions to the double bond.
- Ability to polymerize and copolymerize.
- Values for the copolymerization reactivity ratios r_1, r_2 of 2-ethylhexyl acrylate (M_1) with various monomers (M_2) have been calculated using the Alfrey & Price formula :

Styrene	r_1 = 0.26	r_2 = 0.94
Methyl methacrylate ...	r_1 = 0.53	r_2 = 1.80
Vinyl acetate.....	r_1 = 12.43	r_2 = 0.05

HANDLING AND SAFETY ADVISES

Carefully read the material safety data sheet.

PACKAGING AND STORAGE

2-Ethylhexyl 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 ℃ and away from lig ht. It must also be stored under air atmosphere, as the presence of oxygen is essential to maintain the inhibitor effectiveness.

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

2-Ethylhexyl acrylate is a flammable product, and the appropriate precautions must be taken in handling it.

USES

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

- resins and dispersions for non-woven fabrics, inks, glues and adhesives
- cleaning and waxing products
- plastics and synthetic resins
- synthetic rubbers and latexes
- aqueous dispersions for non-woven fabrics, textiles and paper
- additives for fuel oils and lubricating oils

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