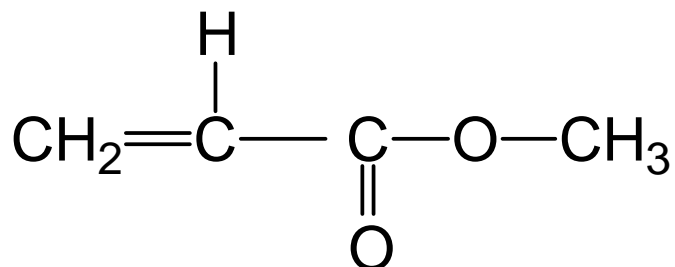


METHYL ACRYLATE (MA)

Cas number : 96-33-3

EINECS number : 202-500-6

CHEMICAL FORMULA



Molecular weight : 86

OTHER NAMES

Acrylic acid, methyl ester
2-Propenoic acid, methyl ester

SPECIFICATIONS

	SPECIFICATION	METHOD
Appearance	Clear liquid	Visual
Colour (APHA)	10 maximum	ASTM D1209
Purity by gas-phase chromatography	99.5 % minimum	GC
Water content	400 ppm maximum	ASTM D1364
Acidity (expressed as acrylic acid)	40 ppm maximum	ASTM D1613
Inhibitor content (MEHQ)*	10 to 20 ppm	ASTM D3125

* For some destinations, inhibitor standard is increased :
Specifications drums : Inhibitor (MEHQ) 50 ± 10 ppm
All other properties and specifications remain the same

HANDLING AND SAFETY ADVISES :

We advise you to read carefully the safety data sheet.

Methyl Acrylate

MAIN PHYSICAL CHARACTERISTICS

Molecular weight	86
Boiling point, at 1013 mbar	80°C
Freezing point	- 75°C
Specific gravity	at 20°C 0.956 at 25°C 0.950
Refractive index, n_D	at 20°C 1.403 at 25°C 1.400
Viscosity	at 20°C 0.489 mPa.s at 25°C 0.461 mPa.s
Solubility water in MA at 20°C	2.5 g/100 g
MA in water at 20°C.....	5.2 g/100 g
Specific heat in liquid state.....	2.01 kJ/kg.°C
Latent heat of vaporisation.....	384 kJ/kg
Heat of polymerisation	914 kJ/kg
Homopolymer glass transition temperature	10°C
Flash point	in open cup 3°C in closed cup - 2°C
Lower explosion limit in volume	2.8 %
Vapour pressure	at 20°C 91 mbar at 30°C 147 mbar at 50°C 346 mbar
Auto-ignition temperature.....	463°C

CHEMICAL PROPERTIES

- Addition reactions to the double bond,
- Ability to polymerise and copolymerise,
- Values for the copolymerisation reactivity ratios r_1 , r_2 of methyl acrylate (M_1) with various monomers (M_2) have been calculated using the Alfrey & Price formula

Styrene.....	$r_1 = 0.14$	$r_2 = 0.78$
Methyl methacrylate ...	$r_1 = 0.50$	$r_2 = 1.91$
Vinyl acetate.....	$r_1 = 9.98$	$r_2 = 0.05$

PACKAGING AND STORAGE

Methyl Acrylate is delivered :

- in 55 to 60 tons protected ordinary steel rail tankcars
- in 25000 to 32000 litres stainless steel road tankcars
- in 217 litres ordinary steel drums, loaded at 192 Kg.

The standard inhibition 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 activate the stabiliser.

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

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

USES

Methyl acrylate is used in the composition of polymers and copolymers with a wide range of industrial applications such as:

- acrylic and modacrylic fibres
- resins and dispersions for paints, varnishes and inks, papers, adhesives and glues
- aqueous dispersions for non-woven fabrics, textiles and paper
- cleaning and waxing products
- plastics and synthetic resins
- synthetic rubbers and lattices
- organic synthesis.

ACRYLIC MONOMERS BU/002804/V6/07.16

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