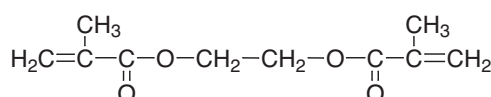


Ethylene Glycol Dimethacrylate (EGDMA)

Methacrylic acid ester for manufacturing polymers and for use as a feedstock for syntheses



CAS No.: 97-90-5

EINECS-No.: 202-617-2

Molar mass: 198.2 kg/kmol

Molecular formula

C₁₀H₁₄O₄

Product specification

Assay (Gas chromatography)	min. 97 %
Total esters	min 99 %
Water content (ASTM E 203)	max. 0.1 %
Color on dispatch (APHA, ASTM D 1209)	max. 50
Standard stabilization (HPLC)	165 ± 75 ppm MEHQ

The aforementioned data shall constitute the agreed contractual quality of the product at the time of passing of risk. The data are controlled at regular intervals as part of our quality assurance program. Neither these data nor the properties of product specimens shall imply any legally binding guarantee of certain properties or of fitness for a specific purpose. No liability of ours can be derived therefrom.

Other properties

Solvent	max. 0.5 %
Methacrylic acid (DIN EN ISO 2114)	max. 0.05 %
Appearance	colorless
Physical form	clear liquid
Density at 25 °C	1.05 g/cm ³
Melting point	-40 °C
Boiling point	240 °C
Flash point	> 101.5 °C
Index of refraction, 20 °C	1.4540
Functionality, theoretical	2
Vapor pressure, 25 °C	1.33 hPa

Labelling according to local Directives
see SDS

Applications

Ethylene Glycol Dimethacrylate (EGDMA) forms homopolymers and copolymers. Copolymers of Ethylene Glycol Dimethacrylate (EGDMA) can be prepared with acrylic acid and its salts, amides and esters, and with methacrylates, acrylonitrile, maleic acid esters, vinyl acetate, vinyl chloride, vinylidene chloride, styrene, butadiene, unsaturated polyesters and drying oils, etc. Ethylene Glycol Dimethacrylate (EGDMA) is also a very useful

feedstock for chemical syntheses, because it readily undergoes addition reactions with a wide variety of organic and inorganic compounds. Ethylene Glycol Dimethacrylate (EGDMA) is used as a cross linker and modifier in vinyl, acrylic or ABS copolymers. Typical applications of Ethylene Glycol Dimethacrylate (EGDMA) include: acrylic sheets and rods, fiber glass, synthetic marble, peroxide cure vulcanization, reinforced polyesters, and PVC resins. Ethylene Glycol Dimethacrylate (EGDMA) is also used in ion exchange resins, glaze coatings, and for encapsulation of smokeless powders. Other applications of Ethylene Glycol Dimethacrylate (EGDMA) include: photopolymer printing plates, paper processing aids, adhesives, leather finishing, and moisture barriers in packaging.

Features & Benefits

Ethylene Glycol Dimethacrylate (EGDMA) is a hydrophilic difunctional methacrylate offering low viscosity, adhesion, flexibility, and high crosslink density. Incorporation of Ethylene Glycol Dimethacrylate (EGDMA) into polymeric resins improves their mechanical properties such as impact strength and abrasion resistance.

Ethylene Glycol Dimethacrylate (EGDMA) can be used to impart the following properties to polymers:

- Chemical resistance
- Hardness
- Adhesion
- High crosslink density
- Hardness/weatherability
- Flexibility
- Impact/abrasion resistance
- Heat/solvent resistance

Storage & Handling

In order to prevent polymerization Ethylene Glycol Dimethacrylate (EGDMA) must always be stored under air, and never under inert gases. The presence of oxygen is required for the stabilizer to function effectively. For extended storage periods over 4 weeks it is advisable to replenish the dissolved oxygen content. The storage temperature must not exceed 35 °C to prevent premature quality degradation. If the above mentioned conditions are met a storage stability of one year can be expected upon delivery. In order to minimize the likelihood of overstorage, the storage procedure should strictly follow the "first-in-first out" principle.

The preferred construction material for tanks and pipes is stainless steel. Carbon steel is also acceptable, although the formation of rust may be a problem with product quality (color). Iron(III)-ions have been shown to be a weak polymerization initiator. If carbon steel is to be used, special procedures should be used to prepare the tank for use. Storage tanks, pumps and pipes should be earthed.

Safety

A Safety Data Sheet has been compiled for Ethylene Glycol Dimethacrylate (EGDMA) that contains up-to-date information on questions relevant to safety.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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