Trimethylolpropane Trimethacrylate (TMPTMA)

Trimethylolpropane Trimethacrylate is a water-insoluble, low viscosity trifunctional methacrylate monomer used as cross linker in various applications.

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\text{C}_{18}\text{H}_{26}\text{O}_6
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**Product specification**

- Assay (Gas chromatography)  min. 90 %
- Total ester, wt.  min. 99 %
- Water content (DIN 51777)  max. 0.1 %
- Color on dispatch (APHA, DIN 53409)  max. 100
- Standard stabilization (GC)  250 ± 100 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.

**Molecular formula**

**Other properties**

- Methacrylic acid (DIN EN ISO 2114) max. 0.01 %
- Appearance colorless to light colored
- Physical form clear liquid
- Density at 25 °C 1.06 g/cm³
- Boiling point 155 °C at 1.33 hPa
- Viscosity at 25 °C 44 mPa · s
- Flash point 115 °C
- Index of refraction, 20 °C 1.4720
- Vapor pressure, 30 °C 8 mbar
- Surface tension 33.6 dynes/cm
- Functionality, theoretical 3

**Labelling according to local Directives**

see MSDS
Applications

Trimethylolpropane Trimethacrylate forms homopolymers and copolymers. Copolymers of Trimethylolpropane Trimethacrylate can be prepared with acrylic acid and its salts, amides and esters, and with methacrylates, acrylonitrile, maleic acid esters, vinyl acetate, vinyl chlorides, vinylidene chloride, styrene, butadiene, unsaturated polyesters and drying oils, etc.

Trimethylolpropane Trimethacrylate is also a very useful feedstock for chemical syntheses, because it readily undergoes addition reactions with a wide variety of organic and inorganic compounds.

Trimethylolpropane Trimethacrylate is used as a crosslinker in forming hard rubber objects.

Trimethylolpropane Trimethacrylate is employed in anaerobic adhesives.

Other applications for Trimethylolpropane Trimethacrylate include formulations for wire and cable coatings and paints.

Features & Benefits

Trimethylolpropane Trimethacrylate has a high degree of functionality and low volatility that makes it useful as a reactive diluent. It is used for increasing the strength and chemical resistance of coatings and rubber articles.

Trimethylolpropane Trimethacrylate can be used to impart the following properties to polymers:

- Chemical resistance
- Adhesion
- Heat resistance
- Weather resistance
- Hardness
- High crosslink density
- Impact strength
- Abrasion resistance

Storage & Handling

In order to prevent polymerization Trimethylolpropane Trimethacrylate 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 ºC to prevent premature quality degradation. If the above mentioned conditions are met a storage stability of one year can be expected. In order to minimize the likelihood of overstorage, the storage procedure should strictly follow the “first-in-first out” principle.

Storage tanks and pipes should be made of stainless steel or aluminium. Storage tanks, pumps and pipes should be earthed.

Safety

A Safety Data Sheet has been compiled for Trimethylolpropane Trimethacrylate that contains up-to-date information on all 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.

December 2011

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