Polyethylene Glycol 200 Dimethacrylate (PEG200DMA)

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

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\begin{align*}
\text{H}_2\text{C} & \text{C} - \text{C} - \text{O} - \left(\text{CH}_2 - \text{CH}_2 - \text{O}\right)_{\text{n}} - \text{C} - \text{C} = \text{CH}_2 \\
\text{H}_3 & \text{O}
\end{align*}
\]

CAS No.: 25852-47-5

Number average molecular weight: 330.4 kg/kmol

\( n = \text{average 4} \)

Product specification

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assay (Gas chromatography)</td>
<td>min. 94 %</td>
</tr>
<tr>
<td>Total ester, wt.</td>
<td>min. 98 %</td>
</tr>
<tr>
<td>Water content (ASTM E 203)</td>
<td>max. 0.2 %</td>
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<tr>
<td>Color on dispatch (APHA, ASTM D 1209)</td>
<td>max. 100</td>
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<tr>
<td>Standard stabilization (HPLC)</td>
<td>250 ± 100 ppm MEHQ</td>
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</tbody>
</table>

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. 0.2%
- Methacrylic acid (DIN EN ISO 2114): max. 0.1%
- Appearance: colorless
- Physical form: clear liquid
- Density at 25 °C: 1.080 g/cm³
- Boiling point: >200 °C at 2.67 hPa
- Viscosity at 25 °C: 6.5 mPa·s
- Flash point: >113 °C
- Functionality, theoretical: 2
- Index of refraction, 20 °C: 1.4630
- Vapor pressure, 30 °C: <5 mm Hg
- Surface tension: 37.2 dynes/cm

Labelling according to local Directives

see SDS
Applications

Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) forms homopolymers and copolymers. Copolymers of Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) 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. Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) is also a very useful feedstock for chemical syntheses, because it readily undergoes addition reactions with a wide variety of organic and inorganic compounds. Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) is used in anaerobic adhesives and sealants, polymer concrete and peroxide cured coatings. Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) is employed as a cross linker for PVC plastisols.

Features & Benefits

Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) is a slight water-soluble, low viscosity, low toxicity, difunctional methacrylic monomer providing crosslink density, flexibility and impact strength.

Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) can be used to impart the following properties to polymers:

- Adhesion
- Weather resistance
- Crosslink density
- Flexibility
- Improved impact resistance
- Hydrophilicity

Storage & Handling

In order to prevent polymerization, Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) must always be stored under air, and never under inert gases. The presence of oxygen is required for the stabilizer to function effectively. It has to contain a stabilizer and the storage temperature must not exceed 35 °C. For extended storage periods over 4 weeks it is advisable to replenish the dissolved oxygen content. Under these conditions, a storage stability of one year can be expected upon delivery. In order to minimize the likelihood of over storage, 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 Polyethylene Glycol 200 Dimethacrylate (PEG200DMA) 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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