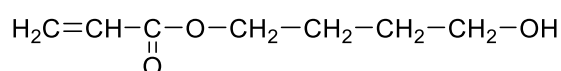


4-Hydroxybutyl Acrylate (4-HBA)

Acrylic acid ester, for manufacturing polymers and for use as a feed stock for syntheses



CAS No.: 2478-10-6

EINECS No.: 219-606-3

Molecular formula

C₇H₁₂O₃

Molar mass: 144.2 kg/kmol

Product specification

Assay (Gas chromatography)	min. 97.00 %
Butanedioldiacrylate (Gas chromatography)	max. 0.5000 %
Water content (ASTM E 203)	max. 0.100 %
Acid content (calc. as acrylic acid) (ASTM D 1613)	max. 0.3000 %
Color on dispatch (APHA, ASTM D 1209)	max. 50
Standard stabilization (ASTM D 3125 or HPLC)	300 ± 50 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

Appearance	clear, colorless or slightly yellowish
Physical form	liquid
Odor	odor-free
Density at 25 °C	1.039 g/cm ³
Refractive index n _d at 20 °C	1.454
Boiling point	236 °C
Freezing point	< - 80°C
Viscosity at 20°C	10.7 mPa · s
Vapor pressure at 20 / 80 / 100 °C	0.005 mbar / 1.3 mbar / 4.6 mbar

Labelling according to local Directives

see SDS

Applications

4-Hydroxybutyl Acrylate (4-HBA) forms homopolymers and copolymers. Copolymers of 4-Hydroxybutyl Acrylate (4-HBA) 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. 4-Hydroxybutyl Acrylate (4-HBA) is also a very useful feedstock for chemical syntheses, because it readily undergoes addition reactions with a wide variety of organic and inorganic compounds.

Features & Benefits

4-Hydroxybutyl Acrylate (4-HBA) can be used to impart the following properties to polymers:

- Adhesion
- Weatherability
- Crosslinking
- Scratch resistance
- Rheology modifier
- Low VOC

Processing

4-Hydroxybutyl Acrylate (4-HBA) polymerizes very readily. It is therefore generally stabilized by using air as a blanket gas and by addition of 300 ppm hydroquinone monomethyl ether (MEHQ). It is only ever supplied in its stabilized form, because it can polymerize with explosive violence if it is not stabilized. It is not usually necessary to remove the stabilizer because its action can be compensated for by adding an excess of initiator.

Storage & Handling

In order to prevent polymerization, 4-Hydroxybutyl Acrylate (4-HBA) must always be stored under air, and **never** under inert gases. The presence of oxygen is required for the stabilizer to function effectively. In order to minimize the likelihood of overstorage, the storage procedure should strictly follow the "first-in-first-out" principle. For extended storage periods over 4 weeks it is advisable to replenish the dissolved oxygen content. The storage temperature for 4-Hydroxybutyl Acrylate (4-HBA) should not exceed 25 °C. Under these conditions, a storage stability of six months can be expected upon delivery. If the storage temperature during storage is controlled to be less than 10 °C and the dissolved oxygen has been replenished a storage stability of 12 months can be expected upon delivery.

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 (colour). Iro(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 4-Hydroxybutyl Acrylate (4-HBA) that contains up-to-date information on questions relevant to safety.

Technical Information

Edition dated October 2020

4-HBA

The BASF logo consists of a white square with a smaller white square inside it, followed by the letters "BASF" in a bold, white, sans-serif font.

We create chemistry

Note

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October 2020