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TECHNICAL DATA SHEET 213

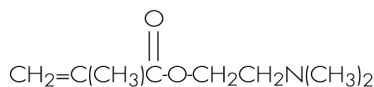
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N,N-Dimethylaminoethyl methacrylate

Dimethylaminoethyl methacrylate is a readily polymerizable monomer which affords a means of incorporating amino groups into polymeric systems. The presence of an amino group imparts cationic properties which provides improved binding of copolymers to a variety of materials, increased compatibility with other polymer systems, and augmented dyeability and thermal stability of synthetic fibers and photographic emulsions. DMAEMA in latex emulsions markedly improves the adhesion of the resulting polymer film to masonry and cellulosic substrates.

Water-soluble polymers and copolymers of amino-methacrylates may be useful as flocculents in the clarification of beverages, metallurgical suspensions, and sewage, ingredients of hair-dressing, suspending agents, anti-static agents, soil conditioners and binders. Copolymers with acrylic and methacrylic acids are interesting polyampholytic materials which possess ionic cross-linking behavior. By using an excess of either the acidic or basic monomer, unusual properties of the polyampholyte can result.

Latices containing copolymers of DMAEMA may be useful in the preparation of acid-soluble coatings and acid-removable floor polishes which are unaffected by washing with ordinary detergents.



Formula Weight: 157

PHYSICAL PROPERTIES:

Appearance: Clear, mobile liquid
Vapor Pressure: 97°C 40mm Hg, 68°C 10mm Hg
Boiling Point: 75-77°C @ 13mm Hg
Color, APHA: 25-50
Specific Gravity @ 25°C: 0.930
Density @ 25°C, lb/gal: 7.77
Refractive Index @25°C: 1.4377
Inhibitor, MEHQ: 2000 ppm
Flash Point: 165°F
Freezing Point: ~ -30°C
Boiling Point: 182-190°C
Solubility: Soluble in common organic solvents, very soluble in water, but hydrolyzes slowly.

COPOLYMERIZATION:

DMAEMA is an active monomer which can be polymerized and copolymerized by bulk, solution, emulsion, suspension, and graft processes.

STORAGE CONDITIONS:

Although the inhibited DMAEMA can be stored without ill effect under controlled conditions, it is more susceptible to polymerization than the alkyl methacrylates. The following additional storage precautions are therefore strongly advised.

1. The monomer should be stored in the dark; avoid exposure to UV rays.
2. Storage temperatures should not exceed 75°F; refrigeration should be provided in hot weather.
3. Storage time must be limited to three months at the maximum temperature of 75°F.
4. Contact with metal salts, rust, atmospheric moisture, and carbon dioxide should be avoided.

TOXICOLOGY:

The acute oral toxicity (LD50) of DMAEMA in rats is 1500 mg/kg. DMAEMA should therefore be considered moderately toxic.

In common with other amines and acrylic monomers, contact with the skin and especially the eyes should be avoided. Should such contact occur, the affected parts must be washed immediately with plenty of water for at least 15 minutes. A physician should be consulted at once after accidental swallowing, eye injury, or severe burns.

HANDLING:

Wear protective gloves and goggles. Avoid contact with skin, eyes, or ingestion. Avoid inhalation of vapor.

ORDERING INFORMATION:

Cat. #	Description	Size
00213	N, N-Dimethylaminoethyl methacrylate	500g

TO ORDER

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