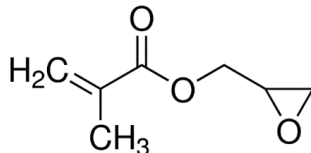




## Glycidyl Methacrylate, GMA

### Methacrylic acid 2,3-epoxypropyl ester, 2,3-Epoxypropyl methacrylate



#### Introduction

Glycidyl Methacrylate (GMA) is a clear, colorless liquid with a strong ester and fruity odor. It's comprised of a polymerizable methacrylate functional group on one end and a reactive epoxy group on the other end. It is slightly miscible with water, soluble in most organic solvents and has relatively low volatility. Its vapor is heavier than air. It copolymerizes readily with a wide variety of functional groups such as phenols, ketones, acids and amines. The added epoxy group imparts properties such as durability, mechanical strength, optical transparency, and adhesiveness.

#### Applications

Glycidyl Methacrylate can be homopolymerized into PolyGMA or co-polymerized with styrene to form Styrene-GMA co-polymers to form a variety of latexes. These products exhibit high flexibility, good weatherability, and UV stability.

GMA is readily converted to PolyGMA and used in a variety of block polymerizations. Polymers containing GMA exhibit the following characteristics.

- Mechanical strength, flexibility, durability, toughness
- Weather resistance, moisture resistance
- Crosslinking sites, epoxy group reacts readily with phenols, ketones and esters.
- Corrosion and abrasion resistance, as well as optical improvement while contributing to low odor, color, and volatility.
- Glycidyl Methacrylate monomer is also used in the manufacture of paints, varnishes, coatings, adhesives and sealants, fibers, thermoplastics, epoxies, and powder coatings.

#### Physical Properties

Property	Value
Formula weight	142.2
Appearance	Clear, colorless liquid
Odor	Strong ester, fruity odor
Specific gravity at 20 °C	1.07
Refractive index at 25 °C	1.449
Viscosity, cps at 25 °C	2.14
Boiling point at 760 mmHg	189 °C
Freezing point	-65 °C
Solubility in water	Slightly Soluble
Flash point, °C	76
Tg of homopolymer, °C	61
Vapor Pressure at 20 °C	0.36

## Typical Composition

Property	Standard Specification	Typical Value
GMA assay	99.00% Min	99.58 wt%
MEHQ 50, 100 ppm	45 - 55, 50 - 150 ppm	Target
Water	0.10% Max	0.03%
Color	25 Max	4
Total Hydrolyzable Chloride	0.25% Max	0.08%
Epichlorohydrin	99ppm Max	34ppm

## Handling Precautions

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

## Storage

Consult the Safety Data Sheet (SDS). The monomer shelf life informs how long the material will remain stable under normal conditions. Never store expired material.

## Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area. For further information, please see our website, [dow.com](http://dow.com) or consult your local Dow representative.

## Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

## Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

## Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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