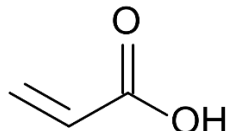




## Product Data Sheet

# Glacial Acrylic Acid (GAA) propenoic acid, ethylenecarboxylic acid



## Introduction

Glacial Acrylic Acid (GAA) is a clear, colorless liquid with a pungent, acrid odor. It's comprised of a polymerizable vinyl functional group on one end and a reactive acid group on the other end. It is 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 monomers. The added acid group imparts properties such as durability, strength, adhesion and an elevated T<sub>g</sub>.

## Applications

Glacial acrylic acid can be homopolymerized into polyacrylic acid which is used in super absorbent polymers (SAPs), ion exchange resins and detergents. GAA can be co-polymerized with a variety of other monomers such as MMA, EHA, VAM, styrene and vinyl chloride. These products exhibit good weatherability, flexibility, hardness and abrasion resistance. The resulting polymer chains bear functional groups that impart the following important properties to the polymer products;

- Impact strength, flexibility, durability, toughness
- Weather resistance, moisture resistance
- Crosslinking sites, acid group reacts readily with alcohols, acrylates and styrenics.
- Hardness, wet and dry adhesion and abrasion resistance are also properties of GAA copolymers.
- Glacial acrylic acid monomer is also used in the manufacture of paints, coatings, adhesives and binders, detergents, diapers and floor polishes as well as finding use in a variety of medical applications.

## Physical Properties

Property	Value
Formula weight	72.06
Appearance	Clear, colorless liquid
Odor	Pungent, acrid
Specific gravity at 20 °C	1.051
Refractive index at 25 °C	1.415
Viscosity, cps at 20 °C	1.3
Boiling point at 760 mmHg	141°C
Freezing point	14 °C
Solubility in water	Miscible
T <sub>g</sub> of homopolymer	87 °C

## Typical Composition

Property	Typical Value	Specification
GAA assay	99.74 wt%	99.00% Min
MeHQ, ppm	198	180-220
Dimer	0.03%	1%
Water	0.10%	0.20%
Color (APHA)	4	10

## Handling Precautions

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage. In addition to the information found on Dow's SDS, more information on handling acrylic monomers can be found in the Basic Acrylic Monomer Manufactures Inc (BAMM) safe handling guide or the European Basic Acrylic Monomer (EBAM) safe handling guide.

## 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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