

PMA Solvent

CAS No. 108-65-6

Description

Glycol Ether PMA is a colorless, liquid with low toxicity. It has a characteristic ester odor and is soluble in water to the extent of 18% at 20°C. It has excellent solvency for a variety of substances including acrylic, nitrocellulose and urethane coating resins. *Glycol Ether* PMA is a substitute for certain ethylene glycol (E-series) ether acetates, particularly EEA and EMA.

Product Identification

Chemical Name 1-Methoxy-2-Propanol Acetate
Chemical Family Propylene Glycol Ether Acetate
Other Names Methoxy Propanol Acetate
..... Propylene Glycol Methyl Ether Acetate
..... 1- Methoxy Propanol Acetate
Chemical Formula C₆H₁₂O₃

Product Specifications

Property	Specifications	Test Method
Specific Gravity @ 25/25°C	0.963-0.966	ASTM D-891
Distillation @ 760mm Hg IBP, min. DP, max.	140°C 150°C	ASTM D-1078
Acidity, wt. % as Acetic acid, max.	0.02	ASTM D-1613
Water, Wt. %, max.	0.05	ASTM E-203
Color, APHA, max.	10	ASTM E-1209
GC Purity, Wt. %, min.	99.0	ACC 8314

150-75 ppm BHT is added to control peroxides.
For the most current product specification, please call 1-888-777-0232 or your local sales contact.

Typical Properties

- Autoignition temperature (°F) 522
- Density (pounds per gallon at 25°C) 8.0
- Evaporation Rate (BuAc = 100) 34
- Flammability Limits (Lower/Upper Vol. %) 1.5/10
- Flash Point (Tag Closed Cup) °C (°F) 47(116)
- Solubility by weight in water @ 20°C 18
- Solubility by weight of water in PMA @ 20°C 6
- Solubility Parameter (Total Hansen) 9.2
- Surface Tension (Dynes/cm) @ 25°C (77°F) 27
- Refractive Index @ 25°C (77°F) 1.40
- Viscosity (centistokes) @25°C (77°F) 1.1
- Vapor Pressure @ 25°C (mm Hg) 3.8

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Applications

Coatings: *Glycol Ether* PMA is extensively used in many decorative and protective coating formulations.

Glycol Ether PMA has a similar evaporation rate and solvency compared to EEA in an acrylic-epoxy baking enamel formulation. It is also found to give better gloss and image distinction.

Cleaners: *Glycol Ether* propylene glycol ethers are generally recommended over their acetates because acetates are subject to hydrolysis in very alkaline water-based cleaners.

However, for solvent-based cleaning, including metal degreasing and specialized equipment cleansing, *Glycol Ether* PMA alone and in conjunction with other solvents is being evaluated as a replacement for many chlorinated solvents. The direction of current regulations is to eliminate the use of many chlorinated solvents in this application.

Glycol Ether PMA shows very broad solvency. Its solvency characteristics generally match those of chlorinated solvents more closely than do glycol ethers and alcohols.

Electronics: Another area where *Glycol Ether* PMA has replaced EEA is in photoresist formulations used in semiconductor processing. In these processes, it is used in the positive photoresist formulation.

Glycol Ether PMA may also be used in solvent systems for cleaning and degreasing circuit boards and removing solder flux.

Other Applications: The properties listed in the previous section also support the use of *Glycol Ether* PMA in agricultural, cosmetic, ink, textile and adhesive products.

Storage

General industry practice is to store *Glycol Ether* PMA in carbon steel vessels. Avoid contact with air when storing for long periods of time.

Store only in tightly closed, properly vented containers away from heat, sparks, open flame or strong oxidizing agents. Use only non-sparking tools. Ground containers before beginning transfer. Electrical equipment should conform to national electric code.

Handle empty containers carefully. Flammable combustible residue remains after emptying. Store in properly lined steel or stainless steel to avoid slight discoloration from mild steel. Glycol ethers should never be stored or handled in copper or copper alloys. This product may absorb water if exposed to air.

Safety and Handling

Glycol Ether PMA has a flash point of 116°F. It is a flammable liquid as defined under SARA Title 111, section 311/312 hazard category but is not subject to the reporting requirements of SARA Title 111, section 313.

Undue exposure or spillage should be strictly avoided as a matter of good practice. Refer to the Material Safety Data Sheet for more specific information.

Hazard ratings are summarized as follows:

(Mono) Propylene Glycol Methyl Ether Acetate

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	NPCA HMIS	NFPA
Health	2	0
Flammability	2	2
Reactivity	1	0
Personal Protection	B*	

*Personal protection recommendation should be made with consideration of specific work place conditions. The health hazard rating is based on eye irritation potential.

Material Compatibility Guidelines

Stainless steel is recommended for valves, pumps and filters. *Teflon* is suitable for gaskets. Buna N, butylene polymers and Neoprene are known to swell in contact with *Glycol Ether* PMA. Information from material suppliers and specific conditions of contact should be considered in the selection of suitable materials.

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Users should review the applicable Safety Data Sheet before handling the product.

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