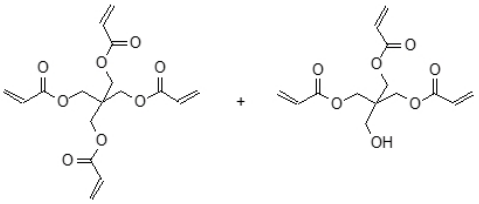
PETRA

Technical Datasheet

PENTAERYTHRITOL ACRYLATE



INTRODUCTION

PETRA is a multifunctional reactive diluent with a high degree of acrylic unsaturation and finds use in a variety of ultraviolet light (UV) and electron beam (EB) curable coatings and ink systems where a high degree of crosslinking is desired. PETRA is a mixture of predominantly the tri- and tetra-acrylate esters of pentaerythritol.

PERFORMANCE HIGHLIGHTS

PETRA is characterized by:

- High acrylate functionality
- Residual hydroxyl content
- Very low vapour pressure
- Low relative viscosity
- Liquid at 25°C

UV/EB curable formulated products containing PETRA are characterized by:

- Rapid photo response
- High cross-link density
- Excellent hardness
- Excellent chemical resistance

The actual properties of UV/EB cured products also depend on the selection of other formulation components such as oligomers, additives and photo initiators.

SUGGESTED APPLICATIONS

PETRA finds application in UV/EB cured coatings and ink systems. PETRA is an especially useful diluent where fast cure speed, hardness and high gloss properties are required.

TYPICAL PROPERTIES

Acid value, mg KOH/g	< 1
Appearance	Clear liquid
Colour, Apha	< 50
Density, g/cm³ at 25°C	1.18
Viscosity, 25°C, mPa.s	500 - 850

PRECAUTIONS

Before using PETRA, see the Safety Data Sheet (SDS) for information on the identified hazards of the material and the recommended personal protective equipment and procedures.

STORAGE AND HANDLING

Care should be taken not to expose the product to high temperature conditions, direct sunlight, ignition sources, oxidizing agents, alkalis or acids. This might cause uncontrollable polymerization of the product with the generation of heat. Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers. Procedures that remove or displace oxygen from the material should be avoided. Do not store this material under an oxygen free atmosphere. Dry air is recommended to displace material removed from the container. Wash thoroughly after handling. Keep container tightly closed. Use with adequate ventilation.

PETRA may crystallize if exposed to low temperatures, particularly in temperatures below 4°C. Crystallized PETRA may be safely melted by placing the container in a controlled temperature water bath or heated room, no warmer than 120°F (49°C), for a period of 24 hours or less. Steam or electrical heating systems, which generate localized hot spots, should never be used to melt this product. Material being melted in 55-gallon drums should be agitated at regular intervals to assure redistribution of polymerization inhibitor and oxygen.

See the SDS for the recommended storage temperature range for PETRA.