

INTRODUCTION

Isobornyl acrylate (IBOA) is a monofunctional reactive diluent that polymerizes when exposed to sources of free radicals. The bicyclic structure of IBOA gives rise to polymers of increased T_g, while its monofunctionality minimizes crosslinking to provide coatings and inks with good hardness and resiliency combined with flexibility and impact resistance.

PERFORMANCE HIGHLIGHTS

IBOA is characterized by:

- Low viscosity
- Wide range of compatibility with oligomers
- Low color

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

- Good flexibility
- Increased T_g, thermal resistance
- Low shrinkage
- Improved water 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

IBOA can be used in UV/EB curing formulations to provide significant viscosity reduction while maintaining both hardness and flexibility. IBOA is recommended for:

- Coatings requiring flexibility with hardness & thermal resistance.
- Maintaining high elongation in urethane acrylates.
- Screen inks and coating requiring increased adhesion to polyolefins.

SPECIFICATIONS

Acidity, wt. % as acrylic acid	max. 0.25
Appearance	Clear liquid
Color, Apha	max. 50
Inhibitor (MEHQ), ppm	80 - 130
Purity, %	min. 98.5
Water, wt. %	max. 0.050

TYPICAL PHYSICAL PROPERTIES

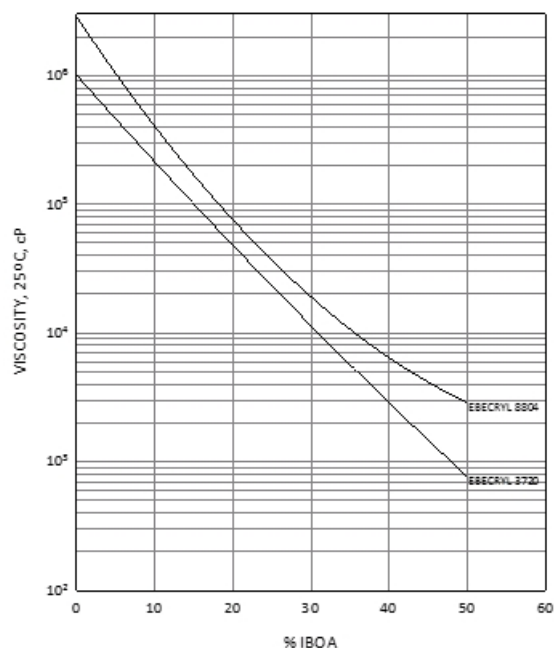
Density, g/ml at 25°C	0.97
Flash point, Setflash, °C	> 100
Formula weight	208
Melting point, °C	< -35

VISCOSITY REDUCTION

Graph I shows the viscosity reduction of two EBECRYL® oligomers when blended with an increasing weight percent of IBOA. EBECRYL® 3720 is a bisphenol A based epoxy diacrylate. EBECRYL® 8804 is an aliphatic urethane diacrylate.

GRAPH I

IBOA - DILUENCY EFFECT ON VISCOUS OLIGOMERS



PRECAUTIONS

Before using IBOA, 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.

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