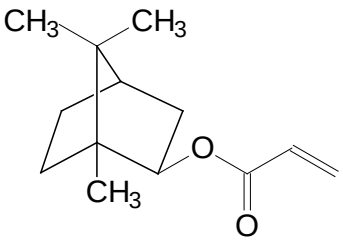
TECHNICAL DATASHEET

IBOA

Isobornyl Acrylate

September 2018

EBECRYL® UV/EB Energy Curable Resins



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 Tg, 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 Tg, 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 photoinitiators.

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

SPECIFICATIONS	VALUE
Acidity, wt. % as acrylic acid, max.	0.25
Appearance	Clear liquid
Color, Pt-Co scale(2), max.	50
Inhibitor (MEHQ), ppm(3)	80-130
Purity, %, min.	98.5
Water, wt. %, max.	0.050

TYPICAL PHYSICAL PROPERTIES

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

CHEMICAL ABSTRACT SERVICE NUMBER

5888-33-5

Propenoic acid,1,7,7,-trimethylbicyclo[2.2.1]hept-2-yl ester

(1) Also referred to as APHA color.

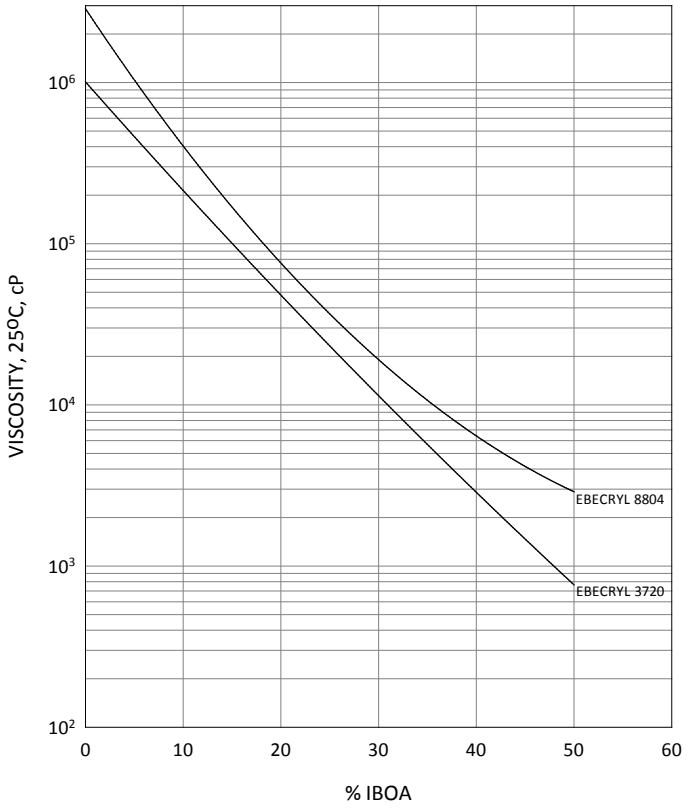
(2) Determined by HPLC

VISCOSITY REDUCTION

Graph I shows the viscosity reduction of two EBECRYL® oligomers when blended with an increasing weight percent of IBOA. EBECRYL 3720(1) is a bisphenol A based epoxy diacrylate. EBECRYL 8804(1) 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.

Please refer to the allnex Guide to Safety and Handling of Acrylate Oligomers and Monomers for additional information on the safe handling of acrylates.

(1) Product of allnex

www.allnex.com