

EBECRYL® 1360

Silicone Hexaacrylate

March 2017



INTRODUCTION

EBECRYL 1360 is a silicone hexaacrylate that improves slip, substrate wetting and coating flow and leveling when used as an additive in formulations cured by ultraviolet light (UV) or electron beam (EB). Cured films containing EBECRYL 1360 will exhibit a smooth, tack free surface, with good blocking resistance. Because of its acrylate functionality, the silicone cures into the polymeric backbone, thus eliminating the migration that free silicones often display in coatings. EBECRYL 1360 is particularly effective in EB cured formulations.

PERFORMANCE HIGHLIGHTS

EBECRYL 1360 is characterized by:

- Low surface tension
- Low viscosity
- High functionality
- Non-migratory

UV/EB cured products containing EBECRYL 1360 are characterized by the following performance properties:

- Reduced COF, increased slip
- Resistance to blocking
- High gloss
- Good mar resistance
- Non-migratory

The actual properties of UV/EB cured products also depend on the selection of other formulation components such as reactive diluents, additives and photoinitiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL 1360 may be applied via direct or reverse roll, offset gravure, metering rod, slot die, knife over roll, air knife, immersion and spin coating methods as well as screen printing. EBECRYL 1360 is recommended for use in:

- Overprint varnishes
- Clear coatings on paper, plastics and metal
- Release coatings
- EB cure

Usage levels between 0.5% and 2.0% by weight of the total formulation are generally sufficient to provide satisfactory slip.

SPECIFICATIONS

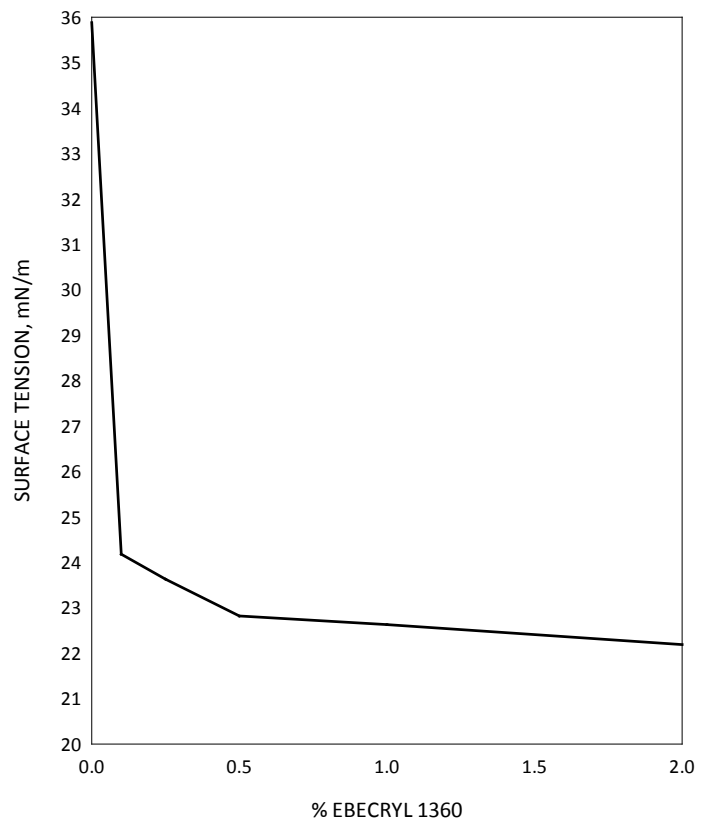
	VALUE
Acid value, mg KOH/g, max.	25
Acrylic Acid, ppm, max.	500
Appearance	Cloudy liquid
Color, Gardner scale, max.	12
Viscosity, 25°C, cP/mPa·s	750-3100

TYPICAL PHYSICAL PROPERTIES

Density, g/ml at 25°C	1.11
Functionality, theoretical ⁽¹⁾	6
Oligomer, % by weight	100
Surface tension, mN/m ⁽²⁾	22.4

SURFACE TENSION

The following graph illustrates the change in surface tension that occurs when increasing amounts of EBECRYL 1360 are added to TMPTA⁽³⁾.

EBECRYL 1360 - EFFECT ON THE SURFACE TENSION OF TMPTA

(1) Theoretical determination based on the undiluted oligomer.

(2) mN/m = dynes/cm

(3) Product of allnex

PRECAUTIONS

Before using EBECRYL 1360, 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 EBECRYL 1360.

EBECRYL 1360 may exhibit crystallization if subjected to temperatures below 15°C. This crystallization can be removed by heating containers of EBECRYL 1360 to a uniform temperature of 40°C. Ovens or hotboxes are recommended methods of heating. Heating bands or blankets should not be used.

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

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