



INTRODUCTION

Hexanediol diacrylate (HDDA) is a difunctional reactive diluent that is commonly used as a component of ultraviolet light (UV) and electron beam (EB) curable coatings and inks. HDDA is particularly useful in coatings and inks where improved elasticity, weathering and adhesion are desired in combination with excellent water resistance.

PERFORMANCE HIGHLIGHTS

HDDA is characterized by:

- Very low viscosity
- Low color
- Efficient reduction of oligomer viscosity

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

- Improved elasticity
- Improved weathering
- Good cure response at low cross-link density
- Improved adhesion
- Good water resistance

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

SUGGESTED APPLICATIONS

HDDA is especially useful in UV/EB curable coatings and inks where improved adhesion, increased elasticity and good weathering are desired. HDDA is recommended for use in:

- Improved adhesion to plastics, metal and glass
- Exterior durable coatings and inks

SPECIFICATIONS

Acid value, mg KOH/g	max. 0.4
Appearance	Clear liquid
Color, Apha	max. 40
Residual solvent, wt. %	max. 0.09
Viscosity, 25°C, mPa.s	5 - 8
Water, wt. %	max. 0.1

TYPICAL PHYSICAL PROPERTIES

Density, g/cm ³ at 25°C	1.02
Flash point, Setaflash, °C	> 100
Formula weight	226

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	5080 (35)
Elongation at break, %	2
Young's modulus, psi (MPa)	246500 (1700)
Glass transition temperature, °C	48

PRECAUTIONS

Before using HDDA, 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.

Upon storage, HDDA may become crystalline. This crystallization can be removed by heating containers of HDDA to a uniform temperature of 50°C. Ovens or hotboxes are recommended methods of heating. Heating tapes should not be used.

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