

Technical Data Sheet

HELOXY™ Modifier 116

Product Description

HELOXY 116 Modifier is a commercial grade of 2-ethylhexyl glycidyl ether. A low viscosity, almost colorless monoepoxide, its primary use is the viscosity reducing modification of epoxy resin formulations.

Benefits

- Efficient viscosity reduction of conventional epoxy resins
- Excellent substrate and filler wetting characteristics
- Low volatility relative to other members of monoepoxide class

Sales Specifications

Property	Value	Unit	Test Method
Color	1	Gardner	ASTMD1544
Epichlorhydrin	10	mg/kg	SMS 2445
Viscosity at 25°C	2 - 4	cP	ASTMD445
Weight per Epoxide	215 - 225	g/eq	ASTMD1652

Typical Properties

Property	Value	Unit	Test Method
Density	7.49 - 7.66	lbs/gal	ASTMD1475

Properties of Cured Systems

Curing agents that are recommended for unmodified basic liquid epoxy resins can also be used with compositions containing HELOXY Modifier 116. When calculating the proper stoichiometric amount of curing agent to be used with HELOXY Modifier 116 modified resins, differences in epoxy content of the resin resulting from this modification are small and can generally be ignored at modification levels below 10 parts per hundred resin (phr).

HELOXY Modifier 116 is compatible with epoxy resins in all proportions and is easily blended with liquid resins at room temperature. These blends can be cured with any of the commonly used epoxy resin curing agents. Since HELOXY Modifier 116 is a monoepoxide compound, it reduces the functionality of the system and impairs the chemical and solvent resistance of the cured resin.

Unless excessive amounts of HELOXY Modifier 116 are used, the physical properties of the cured systems are not seriously affected at room temperature. However, physical and electrical properties at elevated temperatures might be reduced considerably. Data listed in Table 1 illustrate the effect of HELOXY Modifier 116 on systems cured with various curing agents including conventional polyamines, anhydrides, and EPIKURE™ Curing Agent 3072.

General Information

A comparison of the viscosity reduction efficiency of HELOXY Modifier 116 with other HELOXY epoxy functional modifiers is illustrated in Figure 1. Since the quantity of diluent modification required in an epoxy system is normally dictated by its viscosity reducing efficiency, a comparison of monoepoxide diluted epoxy systems of equal viscosity has shown that HELOXY Modifier 116 ranks just below butyl glycidyl ether (HELOXY Modifier 61) in retaining physical strength and thermal performance of the unmodified system.

HELOXY Modifier 116 possesses an odor quite different from that of other aliphatic monoepoxides, and systems modified with this diluent might be less objectionable in this regard to certain individuals.

HELOXY Modifier 116

<https://www.hexion.com/en-US/product/heloxymodifier-116>

Generated: May 27, 2022

Issue Date:

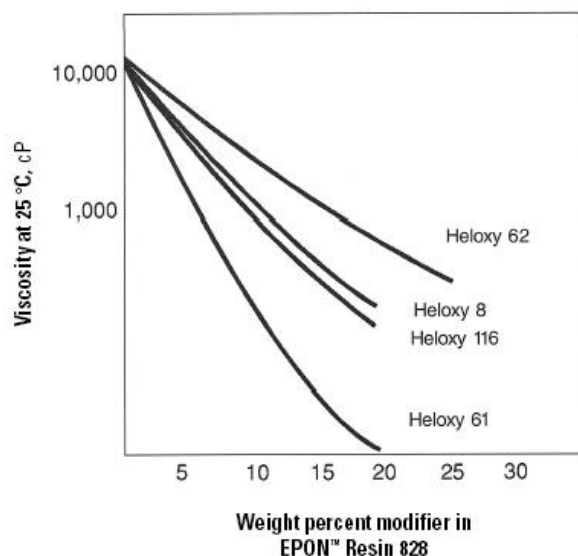
Revision: 9/1/2007 12:00:00 AM

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Since the degree to which performance properties are affected depends on the amount of HELOXY Modifier 116 in the formulation, the amount used in the formulation should be limited to that necessary to yield the required viscosity reduction. The maximum recommended quantity of HELOXY Modifier 116 is about 20 percent of the resin portion.

Figure 1 / Viscosity dilution effectiveness of HELOXY Modifiers



Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

HELOXY Modifier 116 should be stored in tightly sealed containers, in a dry location at room temperature. Some epoxy materials can crystallize during storage. The tendency to do so is affected by storage conditions, composition and other factors. Should crystallization occur, it may be converted to liquid by opening the drum bung and gently warming to temperatures not to exceed 50 °C (122 °F).

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:

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For literature and technical assistance, visit our website at www.hexion.com