

Technical Data Sheet

HELOXY™ Modifier 8

Product Description

Introduction HELOXY Modifier 8 is an aliphatic monoglycidyl ether containing alkyl chains which are predominately C12 and C14 in length. 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
- Non-offensive odor
- Low level of volatility

Sales Specifications

Property	Value	Unit	Test Method
Color	50	Pt-Co	ASTMD1209
Epichlorohydrin	10	mg/kg	SMS 2445
Viscosity at 25°C	6 - 9	cP	ASTMD445
Weight per Epoxide	280 - 295	g/eq	ASTMD1652

Typical Properties

Property	Value	Unit	Test Method
Density	7.4 - 7.6	lbs/gal	ASTMD1475

General Information

HELOXY Modifier 8 is commonly used as a viscosity reducing modifier of conventional liquid, bisphenol A based epoxy resin. Its high diluting efficiency, mild odor, low color and broad compatibility characteristics make it a particularly useful modifier in the formulation of resinous floor toppings, casting compounds, water reducible coatings, adhesives, and electrical encapsulation systems.

A comparison of the viscosity reduction efficiency of HELOXY 8 with other HELOXY 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 effects on physical strength and thermal performance resulting from modification with HELOXY 8 approach those of butyl glycidyl ether (HELOXY 61) based counterparts in retaining performance of the unmodified system.

The relative toxicity of HELOXY 8 is lower than that of butyl glycidyl ether (HELOXY 61) and, therefore, its use represents a lower health risk to workers handling compounds in which it is used.

HELOXY 8 possesses a characteristic odor which has been found to be less objectionable to most users than that of other monoepoxides.

As with any monoepoxide, modification of basic epoxy resins with HELOXY 8 reduces the average epoxide functionality of the mixture thereby lowering cured state chemical and solvent resistance and thermal performance. Since the degree to which these performance properties are affected depends on the amount of HELOXY 8 in the formulation, the amount used should be limited to that necessary to yield the required viscosity reduction. The maximum recommended quantity of HELOXY 8 is about 20 percent of the resin portion.

HELOXY 8 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 curing agents commonly recommended for use with unmodified epoxy resin systems. When calculating the proper stoichiometric amount of curing agent to be used with HELOXY 8 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). Unless excessive amounts of HELOXY 8 are used, the physical properties of the cured systems are not seriously affected at room temperature. However, physical and electrical

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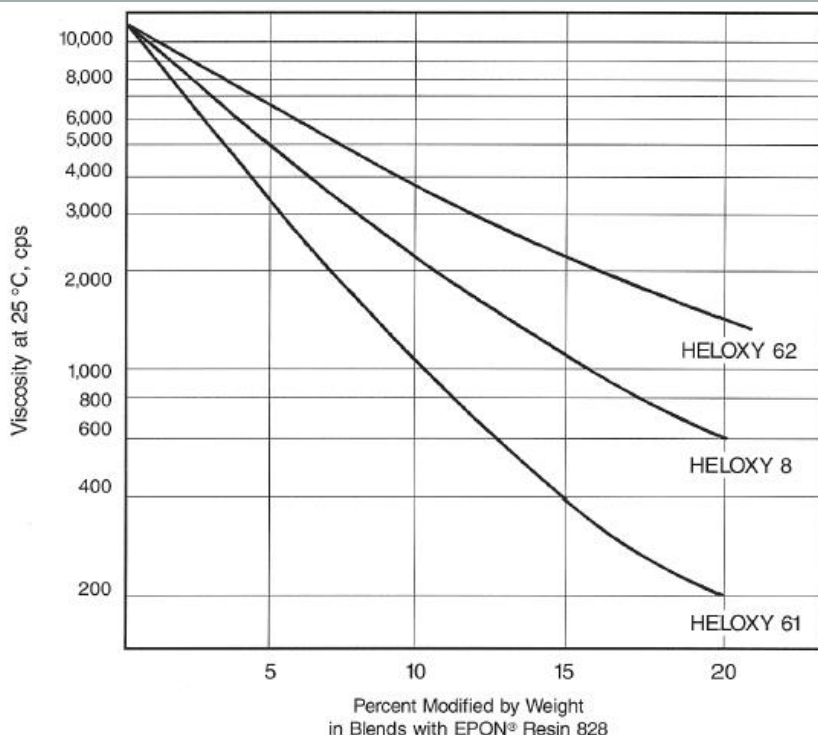
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properties at elevated temperatures may be reduced considerably. Data listed in Table 1 illustrate the effect of HELOXY 8 on systems cured with various curing agents including conventional polyamines, anhydrides, and EPIKURE 3072 Curing Agent.

Pre-blends of HELOXY 8 and a standard bisphenol A based epoxy resin are available as EPON Resin 8132. Each is supplied at a viscosity selected for ease of handling and application. For further information on the properties and suggested uses of these resins, please consult the appropriate product bulletin.

Figure 1 / Viscosity Reduction with 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 8 should be stored in tightly sealed containers, in a dry location at normal 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:

www.hexion.com/Contacts/

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

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