HEXION
Responsible Chemistry

Technical Data Sheet

HELOXY™ Modifier 65

Product Description

HELOXY™ Modifier 65 is a commercial grade, glycidyl ether of para-tertiary butyl phenol. It is primarily used as a viscosity reducing modifier in epoxy systems and is particularly useful in epoxy applications requiring combinations of good electrical properties, low viscosity, low volatility and/or low odor levels.

Benefits

- Moderately effective viscosity reducer for higher molecular weight aromatic epoxy resins
- Good electrical properties
- Low volatility
- Low odor

Sales Specifications

Property	Value	Unit	Test Method
Color	1	Gardner	ASTM D1544
Epichlorohydrin	10	mg/kg	SMS 2445
Viscosity @ 25°C	20 - 30	cP	ASTM D445
Weight per Epoxide	225 - 240	g/eq	ASTM D1652

Typical Properties

Property	Value	Unit
Density	8.4 - 8.6	lbs/gal

General Information

HELOXY 65 is compatible with virtually all classes of epoxy resins used in thermoset plastics and protective coatings applications.

As with any monoepoxide, use of HELOXY 65 as a modifier reduces the average epoxide functionality of the epoxy system, thereby lowering cured state chemical and solvent resistance and thermal performance. Since the degree to which performance properties are affected depends on the amount of HELOXY 65 in the formulation, the amount used should be limited to that necessary to yield the required reduction in viscosity. A comparison of the effects on viscosity resulting from modification with Heloxy 65 to that of other representative HELOXY modifiers is illustrated by Figure 1.

Curing agents that are recommended for satisfactory crosslinking of unmodified liquid epoxy resins can also be used with compositions containing HELOXY 65. Minor adjustments in

curing agent concentration might be required when formulating a HELOXY 65 modified resin due to the slightly lower epoxide content (higher weight per epoxide) of HELOXY 65 relative to most unmodified epoxy systems.

As seen when reviewing data in Table 1, which compare the effects of HELOXY 65 modification of epoxy system properties, pot life is lengthened and peak exotherm temperatures are reduced. The highly aromatic structure of HELOXY 65 contributes to a slightly more rigid, less flexible cured state than that developed by an unmodified counterpart. Use of HELOXY 65 generally results in excellent maintenance of, or improvement in, electrical properties when reducing epoxy systems to proper application viscosities.

While difficult to predict with certainty due to varying effects of storage conditions and other compositional factors, past studies have shown that HELOXY 65 is among the most effective epoxy functional modifiers in resisting crystallization frequently noted to occur during storage of diluted bisphenol A based epoxy resins.

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 65 should be stored in tightly sealed containers, in a dry location at normal room temperatures. Some epoxy resins may 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