

DESCRIPTION

Epodil 750 reactive diluent is a technical grade of the diglycidyl ether of 1,4-butanediol. It is a difunctional reactive diluent used to reduce the viscosity of epoxy resin systems. It will react completely with curing agents and become part of the final crosslinked polymer network. As a result, maximum viscosity reduction can be obtained with physical and performance properties similar to those obtained with standard unmodified epoxy resins.

ADVANTAGES

- Minimal impact on reactivity
- Low volatility
- Best dilution efficiency of difunctional glycidyl ethers

APPLICATIONS

- Electrical potting, casting and encapsulation
- Laminates
- Exposed aggregate
- Flooring

SHELF LIFE

At least 36 months from the date of manufacture in the original sealed container at ambient temperature. Store away from excessive heat and humidity in tightly closed containers.

STORAGE AND HANDLING

Refer to the Safety Data Sheet for Epodil 750 reactive diluent.

TABLE 1: TYPICAL PROPERTIES

Appearance	Clear Liquid
Color (Gardner)	1
Viscosity @ 77°F (25°C) (cP)	18
Specific Gravity @ 77°F (25°C)	1.10
Flash Point (Setaflash) (°F)	>200
Hydrolyzable Chloride (max)	0.3
Residual Epichlorohydrin (ppm max)	10
Weight per Gallon (lb/gal)	9.2-9.3
Moisture Content (% max)	0.1
Equivalent Wt/{H}	130
Recommended Use Level (phr, EEW=190)	See Table

TABLE 2: SUPPLEMENTARY DATA

Epodil 750 reactive diluent can be used as follows to lower the viscosity of a standard Bisphenol-A liquid epoxy resin (EEW=190) with an initial viscosity of 12,500 cP:

Weight Percent Epodil 750 (%)	Viscosity @ 77°F (25°C) (cP)
5	6,000
10	3,000
15	1,400
20	850
25	600

EXAMPLE IMPACT OF DILUENT ON A SIMPLE FORMULATED SYSTEM

Evonik recommends that the formulator test reactive diluents in their system for performance. The following data is provided as an example of the impact of the reactive diluent on a simple formulated system.

SYSTEM:

- BADGE with 12.5 wt% Epodil 750
- Cured with Ancamine® 1618 curing agent at 1:1 stoichiometry

Property	Without Epodil 750	With Epodil 750
Persoz hardness² at 23°C (1 day/7day)	195/310	101/305
Phase 3 dry time³ (h)	7:10	7:34
Tg⁴ (1st scan)	51	47
Gel time⁵ (min)	55	52

- (2) BYK Persoz pendulum tester according to ISO 1522 with 10 mil WFT at 23°C/50% RH
- (3) 6 mil WFT BK Drying time recorder according to ASTM D5895 with 6 mil WFT at 23°C/50% RH
- (4) TA Instruments DSC model Q200 first scan data
- (5) 150g mix using TECHNE Gel-timer

Epoxy Curing Agents and Modifiers

EPODIL® 750 Reactive Diluent

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