

DESCRIPTION

Epodil 742 reactive diluent is cresyl glycidyl ether (CGE). It is a monofunctional reactive diluent used to reduce the viscosity of epoxy resin systems. Since monofunctional diluents, in general, cause molecular weight chain termination, the minimum amount necessary to achieve the desired viscosity reduction should be used.

ADVANTAGES

- Reduces the crystallization potential of standard epoxy resins
- Minimizes the loss of chemical resistance
- Low volatility

APPLICATIONS

- Laminates
- Tooling
- Electrical potting compounds
- Flooring, mortars and grouts

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 742 reactive diluent.

TABLE 1: TYPICAL PROPERTIES

Appearance	Clear Liquid
Color (Gardner)	2
Viscosity @ 77°F (cP)	12
Specific Gravity @ 77°F	1.08
Flash Point (Setaflash) (°F)	>200
Hydrolyzable Chloride (max)	0.1
Residual Epichlorohydrin (ppm max)	25
Moisture Content (% max)	0.2
Equivalent Wt/{H}	182
Recommended Use Level (phr, EEW=190)	See Table

TABLE 2: SUPPLEMENTARY DATA

Epodil 742 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 742 (%)	Viscosity @ 77°F (cP)
5	5,000
10	2,000
15	1,200
20	800
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 742
- Cured with Ancamine® 1618 curing agent at 1:1 stoichiometry

Property	Without Epodil 742	With Epodil 742
Perso hardness² at 23°C (1 day/7day)	195/310	95/294
Phase 3 dry time³ (h)	7:10	9:07
Tg⁴ (1st scan)	51	47
Gel time⁵ (min)	55	67

² BYK Persoz pendulum tester according to ISO 1522 with 10 mil WFT at 23C/50% RH

³ 6 mil WFT BK Drying time recorder according to ASTM D5895 with 6 mil WFT at 23C/50% RH

⁴ TA Instruments DSC model Q200 first scan data

⁵ 150g mix using TECHNE Gel-timer

Epoxy Curing Agents and Modifiers

EPODIL[®] 742 Reactive Diluent

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