

DESCRIPTION

Epodil 748 reactive diluent is an aliphatic glycidylether, comparable to Epoxide 8.¹ 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.

Epodil 748 reactive diluent is particularly useful where low volatility levels are required so that problems in poorly ventilated areas are minimized. It can be used in compliance with 21 CFR 175.300, 21 CFR 175.105, 21 CFR 176.180 and 21 CFR 177.1650 as a component of FDA-compliant formulations. Slight increases in pot life can be expected when 5.20% of Epodil 748 reactive diluent is blended with typical liquid epoxy resins.

ADVANTAGES

- Low vapor pressure and low toxicity
- Improves flexibility
- Improves adhesion to non-polar surfaces

APPLICATIONS

- Flooring, mortars and grouts
- High and 100% solids coatings
- Laminates
- Exposed aggregate

STORAGE AND HANDLING

Refer to the Safety Data Sheet for Epodil 748 reactive diluent.

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.

Material may crystallize or solidify upon exposure to low temperatures. Crystallized or solidified material can be utilized after melting at elevated temperatures without impacting handling or physical properties. It is recommended that the material be heated to 50-70°C while mixing continuously for 1 hour.

TABLE 1: TYPICAL PROPERTIES

Color (Gardner)	Clear Liquid
Color (APHA) (max)	1
Viscosity @ 77°F (cPs)	12
Specific Gravity @ 77°F	0.890
Flash Point (Setaflash) °F	>200
Hydrolyzable Chloride (max)	0.1
Residual Epichlorohydrin (ppm max)	10
Weight per Gall (lb/gal)	7.3-7.5
Moisture Content (% max)	0.1
Equivalent Wt/ {H}	290
Recommended Use Level (phr, EEW=190)	See Table

TABLE 2: SUPPLEMENTARY DATA

Epodil 748 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 cPs:

Weight Percent Epodil 748 (%)	Viscosity @ 77°F (cPs)
5	4,000
10	1,050
15	500
20	300

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TABLE 3: 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 748
- Cured with Ancamine® 1618 curing agent at 1:1 stoichiometry

Property	Without Epodil 748	With Epodil 748
Persoz hardness ² at 23°C (1 day/7day)	195/310	61/274
Phase 3 dry time ³ (h)	7:10	10:05
Tg ⁴ (1st scan)	51	48
Gel time ⁵ (min)	55	75

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

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