

DESCRIPTION

Epodil 781 reactive diluent is an aromatic mono-functional diluent. Epodil 781 is a glycidyl ester of neodecanoic acid. Epodil 781 is sometimes used as a performance alternative for Epodil 748, with a tradeoff in some mechanical properties.

ADVANTAGES

- Improves flexibility
- Maintains barrier properties

APPLICATIONS

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

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 781 reactive diluent.

TABLE 1: TYPICAL PROPERTIES

Color (APHA)	35 (max)
Viscosity @ 77°F (cP)	6
Specific Gravity @ 77°F	0.95
Flash Point (Setaflash) (°F)	>200
Hydrolyzable Chloride (max)	0.3
Residual Epichlorohydrin (ppm max)	200
Weight per Gallon (lb/gal)	7.92
Moisture Content (% max)	0.1
Equivalent Wt/{H}	240-260
Recommended Use Level (phr, EEW=190)	See Table

TABLE 2: SUPPLEMENTARY DATA

Epodil 781 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 13,700 cP:

Weight Percent Epodil 781 (%)	Viscosity @ 77°F (cP)
5	7200
10	3270
15	1830
20	1070

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 781
- Cured with Ancamine® 1618 curing agent at 1:1 stoichiometry

Property	Without Epodil 781	With Epodil 781
Perso hardness² at 23°C (1 day/7day)	195/310	70/271
Phase 3 dry time³ (h)	7:10	10:38
Tg⁴ (1st scan)	51	48
Gel time⁵ (min)	55	84

Footnotes

- (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

EVONIK CORPORATION

7201 Hamilton Blvd.
Allentown, PA 18195
1 800 345-3148
Outside U.S. and Canada 1 610 481-6799

For Technical Information and Support:

Americas: picus@evonik.com
EMEA: apcse@evonik.com

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