

Product information

EPODIL[®] 781

Reactive Diluent

DESCRIPTION

Epodil 781 reactive diluent is a 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.

TYPICAL PROPERTIES

Property	Value	Unit
Color	max 30	APHA
Viscosity @ 77°F	6	cP
Specific Gravity @ 77°F	0.95	°F
Flash Point (Setaflash)	> 200	°F
Hydrolyzable Chloride	max 0.3	
Residual Epichlorohydrin	max 200	ppm
Weight per Gallon	7.92	lb/gal
Moisture Content	max 0.1	%
Equivalent Wt/{H}	240-260	
Recommended Use Level (EEW=190)	See Table	phr

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.

SUPPLEMENTARY DATA

Weight Percent Epodil 777 (%)	Viscosity @ 77°F (cP)
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:	
5	7,200
10	3,270
15	1,830
20	1,070

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
Persoz hardness ² at 23°C (1 day/7day)	195/ 310	70/ 271
Phase 3 dry time ³ (h)	7:10	10:38
Tg ⁴ (1st scan)	51	48
Gel time ⁵ (min)	55	84

(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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EVONIK OPERATIONS GMBH

Business Line Crosslinkers
Paul-Baumann-Str. 1
45764 Marl
Germany

www.evonik.com/crosslinkers

Product Information: APCSE@evonik.com

Sample Request: APCSE@evonik.com

EVONIK CORPORATION

Business Line Crosslinkers
7001 Hamilton Boulevard
Trexlerstown, PA 18087
USA

CrosslinkersProinfo@evonik.com

Crosslinkers-Samples@evonik.com

**EVONIK SPECIALTY CHEMICALS
(SHANGHAI) CO., LTD.**

Business Line Crosslinkers
55, Chundong Road
Xinzhuang Industry Park
Shanghai, 201108
China

CL-Asiainfo@evonik.com

CL-Asiainfo@evonik.com

