Product information

EPODIL® 750

Reactive Diluent

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.

TYPICAL PROPERTIES

Property	Value	Unit
Appearance	Clear Liquid	
Color	1	Gardner
Viscosity @ 25°C	10-18	cP
Specific Gravity @ 25°C	1.11	°C
Flash Point (Setaflash)	>200	°C
Hydrolyzable Chloride	max 0.3	
Residual Epichlorohydrin	max 10	ppm
Weight per Gallon	9.2-9.3	lb/gal
Moisture Content	max 0.1	%
Equivalent Wt/{H}	130	
Recommended Use Level (EEW=190)	See Table	phr

ADVANTAGES

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

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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.

SUPPLEMENTARY DATA

Weight Percent Epodil 750 (%)	Viscosity @ 25°F (cP)
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:	
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 hardness[2] at 23ºC (1 day/7day)	195/310	101/305
Phase 3 dry time[3] (h)	7:10	7:34
Tg[4] (1st scan)	51	47
Gel time[5] (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

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
Trexlertown, PA 18087
USA

CrosslinkersProdinfo@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