

Cardolite[®] NC-541

Epoxy Curing Agent

Technical Datasheet

DESCRIPTION

Cardolite NC-541 is a solvent-free phenalkamine curing agent designed for epoxy coating applications. It has excellent rapid cure properties, even at low temperatures, and provides good adhesion on wet or otherwise unprepared surfaces. Heavy duty industrial, protective, and marine service coatings can benefit from this product's outstanding water resistance and corrosion protection.

PROPERTIES

PROPERTY	TYPICAL VALUE	SPECIFICATION	TEST METHOD
Appearance	Reddish brown viscous liquid		Visual
Color (Gardner)	16	≤17	ASTM D1544
Viscosity @ 25°C (cPs)	28,000	25,000-50,000	ASTM D2196
Amine Value (mg KOH/g)	330	300-335	ASTM D2074
Active Hydrogen Equivalent (AHEW) ¹	130	-	-
Volatile Loss (% weight)	1.7	≤5.0	ASTM D2369-98
Density @ 25°C (kg/L) (lbs/gal)	0.99 8.25	0.98 – 1.0 8.15 – 8.35	ASTM D1475
Flash point	98°C / 208°F	-	ASTM D93
Recommended Use Level (phr, EEW 190)	65-75	-	-
Shelf Life (Months)	-	12	-

¹Based on total product weight

APPLICATIONS

Cardolite NC-541 is suitable for medium to high solids surface tolerant marine, industrial, and protective coatings. It can be used for coating applications under cold and humid conditions, even over damp and poorly prepared surfaces. This product's fast cure and good hardness make it ideal for applications requiring fast return to service. Its ability to cure over a wide temperature range and non-critical mix ratio can bring coatings broad application latitude. Cardolite NC-541 can also be used in potable water applications* and applications requiring FDA 175.300 compliance.

* Dependent on country regulations

ADVANTAGES

- Excellent combination of rapid cure and long pot-life at both ambient and low (<5°C/40°F) temperatures
- Continues to chemically crosslink at very low temperatures (<0°C/32°F)
- Good adhesion to poorly prepared surfaces
- Moisture tolerant during cure
- Excellent early water resistance
- Good chemical resistance
- Good flexibility
- Compatible with most epoxy resins, solvents and their blends
- Superior corrosion resistance mitigating the need for anti-corrosion pigments
- Good dilution efficiency with solvents
- Non-critical mix ratio
- No induction time required
- Non-toxic and non-corrosive
- Based from natural, renewable, non-food chain raw material feedstock

CURE PROPERTIES

	FORMULATION	TEST METHOD
Liquid Epoxy Resin (pbw, EEW 190)	100	
Cardolite NC-541 (pbw)	68	
Mix viscosity @ 25°C (cPs)	15,500	
Gel time, 50 g @ 25°C (min)	81	NTM-15
Thin film dry times 8 mils (200 micron)		
@ 25°C (77°F) (hrs touch/hard/through)	2.5/4.5/7.5	ASTM D5895
@ 5°C (42°F) (hrs touch/hard/through)	5/11/12.5	ASTM D5895
@ 0°C (32°F) (hrs touch/hard/through)	8.5/20.5/28.5	ASTM D5895
Film appearance @ 7°C, 95% RH	Clear	Visual

APPROVALS AND REGULATORY STATUS

Australia:	AICS	Japan:	MITI	Taiwan:	-
Canada:	DSL	Korea:	KECI	United States:	TSCA
China:	IECSC	New Zealand:	NZIoC	Other:	FDA Title 21 CFR 175.300
Europe:	REACH	Philippines:	PICCS		Ships DOT non-corrosive (USA)

SAFETY PRECAUTIONS

Please refer to the material safety data sheet (MSDS). Copies of the MSDS can be requested on the Cardolite website or via your local sales representative.

STABILITY AND STORAGE

Cardolite products may absorb moisture and carbon dioxide when left in open containers, which could result in increased viscosity, discoloration, reduction of reactivity, and/or crystallization of the products. These products should be kept tightly sealed in their original containers when not in use, and stored in a cool, dry place.

CONTACT INFORMATION



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