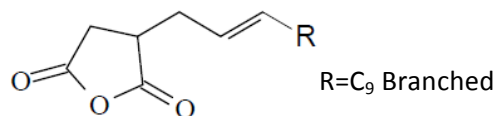


DDSA

Description

Dodeceny Succinic Anhydride (DDSA) is an epoxy curing agent that is unique among liquid anhydride hardeners. DDSA has a low density and a high mix ratio, which combine to provide a system that fills 15% more volume per pound. The mechanical and electrical properties of the cured formulation are superior to epoxy resins cured with di-amines or polyamides. Moisture absorption is low and the flexibility / toughness is enhanced. DDSA also provides extended pot life, and one component epoxy formulations can be compounded.

Chemical Name: Dodeceny Succinic Anhydride
 Chemical Formula: $C_{16}H_{26}O_3$
 Molecular Weight: 266.37
 CAS Number: 25377-73-5 or 26544-38-7



Typical Applications

- Electrical potting compounds
- Syntactic foams
- Coatings
- Conductive adhesives

Specifications

Appearance	Clear, light yellow liquid
Color (Gardner)	< 6 Max.
Anhydride Content	99.0% Min.
Maleic Anhydride	0.2% Max.
Free Acid	1.0% Max.
Acid Number	410-432 mg KOH/g
Refractive Index, N_D^{20}	1.470-1.480
Viscosity @ 25°C	290-355 cps
Turbidity, ppm	10 Max.
Pour Point	0°C
Boiling Point, 5mm Hg	184°C min.
Specific Gravity	0.98 – 1.02
Neutralization Equivalent	131.0 – 137.0

Typical Formulation

Epoxy Resin (Epoxy Equivalent 175-210)	100 phr
DDSA	130-150 phr
Benzl Dimethyl Amine (BDMA)	1 phr

4 hour pot life at 90°C

Cure Temperature: 120°C



Gel Time in a Gardco Stabletemp GT-STHP-110 Geltimer apparatus, using various accelerators
Gelled at 100°C

	BDMA	MI	BTEAC	AC-PI	
DDSA	25	18	29	26	(minutes)

Properties

Cure Schedule

	4 Hours at 150°C	24 Hours at 150°C
Heat Deflection Temp, °C	60	70
Tensile Strength, psi	7,100	7,400
Elongation, %	4.5	3.5
Flexural Strength, psi	13,000	13,500
Thermal Cycling 150°F to 15°F	Pass	Pass

Dielectric Constant & Dissipation Factor

Temp °C	60 Hz		1kHz		1MHz	
	K	DF	K	DF	K	DF
23	2.80	.010	2.81	.006	2.69	.009
100	3.53	.008	3.17	.044	2.77	.022
153	5.81	.314	3.70	.183	3.09	.056

Temp °C	Volume Resistivity
25	$> 2 \times 10^{14}$
100	1×10^{12}
150	3×10^9
175	6×10^8
200	2×10^8

Packaging

Drums: 55 gallon metal drum (452 lbs. net)
Bulk: ISO container, tank truck, rail car
Pails: 40 lbs. net

Shelf Life

Product should be stored dry at ambient temperature. Containers should remain tightly sealed to avoid moisture absorption and product hydrolysis. Under these conditions, the product shelf-life is 12 months.

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