

An Emerald Performance Materials Company

ERISYS® GS-110

Aliphatic Monofunctional Glycidyl Ester

Reactive Diluent

CAS NO. 26761-45-5

EINECS 247-979-2

DESCRIPTION

ERISYS GS-110, the monoglycidyl ester of neodecanoic acid, can be used as a diluent for high viscosity epoxy resins. GS-110 has a low viscosity, low vapor pressure and a less irritating odor than other low viscosity monofunctional diluents. As with all monofunctional aliphatic epoxides, increasing levels of GS-110 in epoxy resins will lengthen gel times and modify cured properties. Some decrease in thermal and chemical resistance and modulus may occur.

ERISYS GS-110 can also be used as a monomer in the production of polyester, acrylic, and alkyd resins. These resins are produced by the reaction of GS-110 with carboxylic acid groups. The resins exhibit improved wetting, gloss, flexibility and salt spray resistance.

TYPICAL PROPERTIES

Appearance	Clear, Clean Liquid
Viscosity @ 25°C, cps	5 – 15
Epoxide Equivalent Weight, g/eq	238 – 256
APHA Color, max	50
Weight per Gallon @ 25°C, lbs.	8.0 ± 0.1
Hydrolyzable Chloride Content, % max	0.30
Water Content, % max	0.10
Epichlorohydrin content, max ppm	25
Flash Point, °C (°F)	126 (>258)

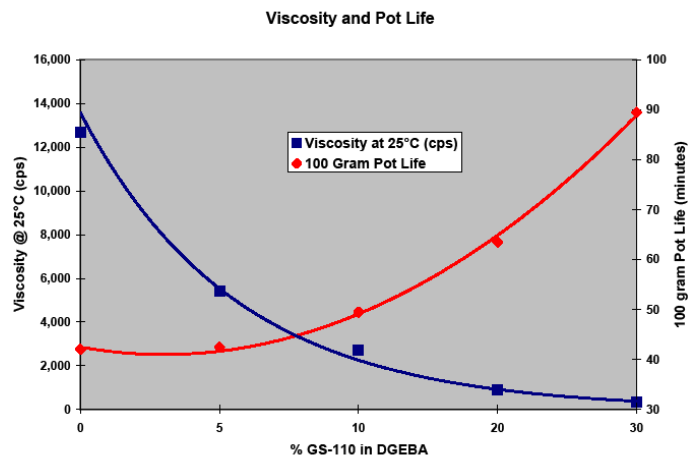
HANDLING PROPERTIES

The use of ERISYS GS-110 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

APPLICATIONS

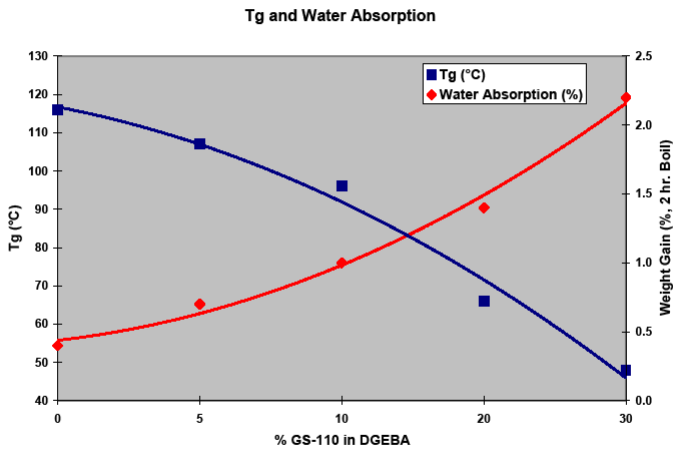
- Diluent in epoxy floor coatings
- Polyester or Acrylic resin synthesis for water reducible coatings
- Synthesis of alkyd resins

VISCOSITY AND POT LIFE

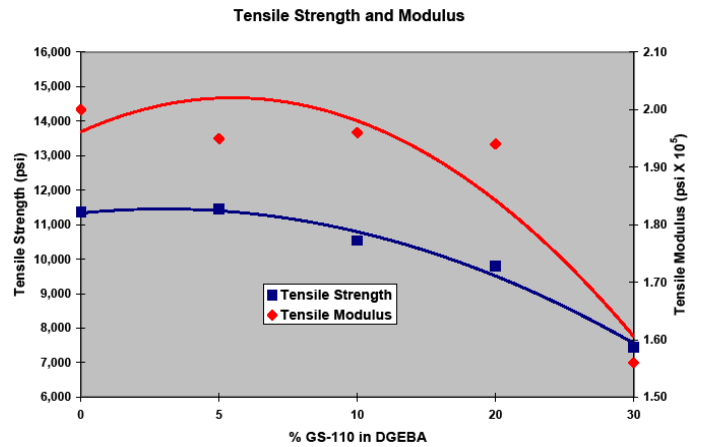


THE EFFECT OF ERISYS GS-110 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA

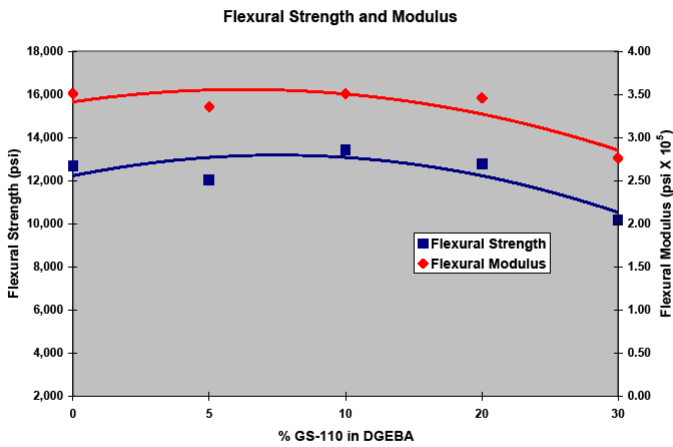
Tg and WATER ABSORPTION



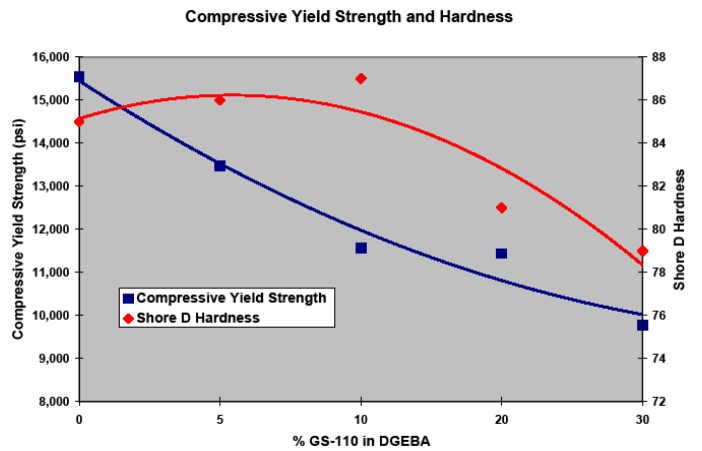
TENSILE PROPERTIES



FLEXURAL PROPERTIES



COMPRESSIVE STRENGTH and HARDNESS



Physical Properties Report	ERISYS GS-110 in EPALLOY 7190				
Epalloy 7190	100	95	90	80	70
Erisys GS-110	0	5	10	20	30
TETA	13.0	12.8	12.6	12.3	12.0
Resin Viscosity @ 25°C (cps)	12,700	5,400	2,700	900	350
100 gram gel time (mins)	42	43	50	64	90
Tensile Strength (psi)	11,357	11,444	10,540	9,811	7,452
Tensile Elongation (%)	8.1	9.6	8.2	7.8	8.0
Tensile Modulus (psi x 10 ⁵)	2.00	1.95	1.96	1.94	1.56
Flexural Strength (psi)	12,687	12,051	13,429	12,799	10,184
Flexural Modulus (psi x 10 ⁵)	3.51	3.36	3.51	3.46	2.76
Compressive Yield Strength	15,552	13,466	11,555	11,436	9,780
Compressive Modulus (psi x 10 ⁵)	2.29	2.13	2.10	2.13	2.10
Shore D Hardness	85	86	87	81	79
Tg (°C)	116	107	96	66	48
Water Absorption (28 days @ RT)	0.3	0.8	0.8	0.9	2.1
Water Absorption (2 hour boil)	0.4	0.7	1.0	1.4	2.2

HEALTH & SAFETY PRECAUTIONS

ERISYS GS-110 is not a primary skin irritant or sensitizer. However, as with any epoxy material, irritation can result from repeated or prolonged contact. The symptoms of this irritation may appear as a mild reddening or a more pronounced rash. It is, therefore, important to avoid skin contact where possible. Chemical resistant gloves, full eye protection and protective clothing are recommended.

Refer to **CVC Thermoset Specialties** Material Safety Data Sheet on ERISYS GS-110 for additional safety and health information. The MSDS is revised as new data becomes available.

PACKAGING & AVAILABILITY

ERISYS GS-110 is available in 55 gal. non-returnable steel drums (net weight 445 lbs.) and 5 gal. plastic pails (40 lbs. net). Bulk shipments are available with adequate lead- time. Drum inventory is available at most CVC regional warehouses. Check with your sales representative for specific designations and particle size specifications.

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