

ERISYS™ GE-31

Trimethylolethane Triglycidyl Ether
Aliphatic Trifunctional Epoxy Diluent
CAS NO. 68460-21-9
EINECS - Polymer (Monomers Listed)

DESCRIPTION

ERISYS GE-31, the triglycidyl ether of trimethylolethane, is a low viscosity aliphatic triepoxide. It is intended for use as a reactive diluent for high viscosity epoxy resins. GE-31 is compatible at all concentrations with those resins. Resin/diluent blends can be cured using any curing agent for epoxy resins.

As a result of its structure, GE-31 is not as efficient in viscosity reduction as many other reactive diluents. However, as a high functionality reactive modifier, cured properties of formulations containing GE-31 are maintained to a greater degree than those of systems containing lower functionality diluents. GE-31's structure helps to produce cured formulations with higher cross-link density suggesting use in applications requiring enhanced chemical resistance.

TYPICAL PROPERTIES

Appearance	Clear, Clean
Viscosity @ 25°C, cps	200 - 300
Epoxide Equivalent Weight, g/eq	150 - 170
Gardner Color, max	4
Residual Epichlorohydrin, max ppm	10
Hydrolyzable Chloride, max %	0.10
Weight per Gallon, @ 25°C lbs.	10 ± 0.1
Flash Point, °C (°F)	>93 (>200)

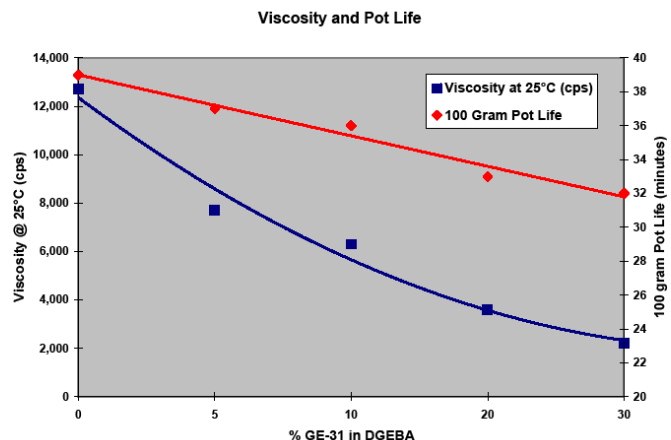
HANDLING PROPERTIES

The use of ERISYS GE-31 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

APPLICATIONS

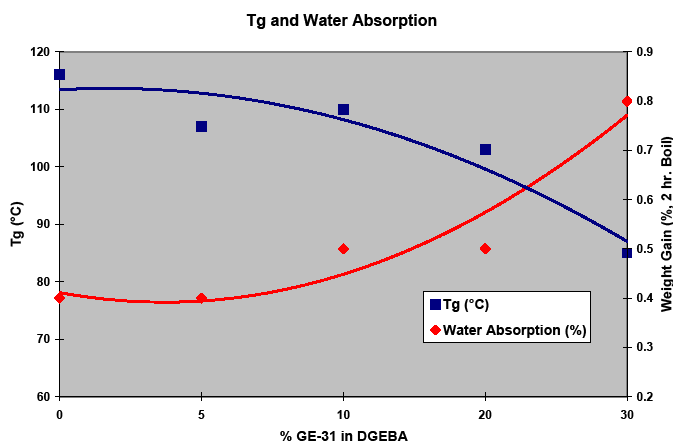
- ☐ 100% Solids Chemical Resistant Coatings
- ☐ Concrete Crack Repair
- ☐ Coatings for Containment Areas
- ☐ High Performance Adhesives

VISCOSITY AND POT LIFE

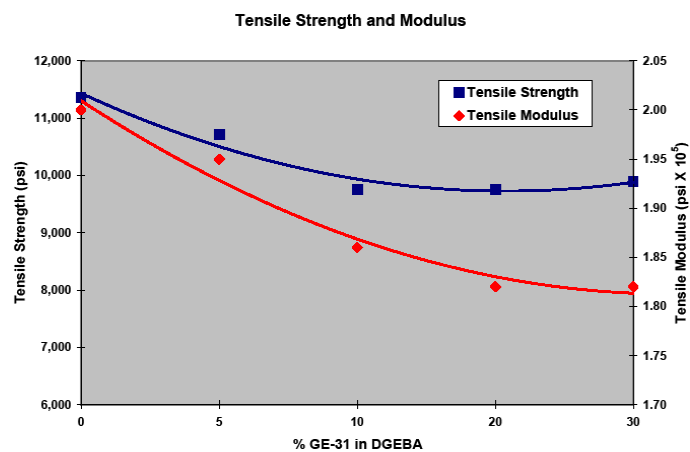


THE EFFECT OF ERISYS GE-31 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA

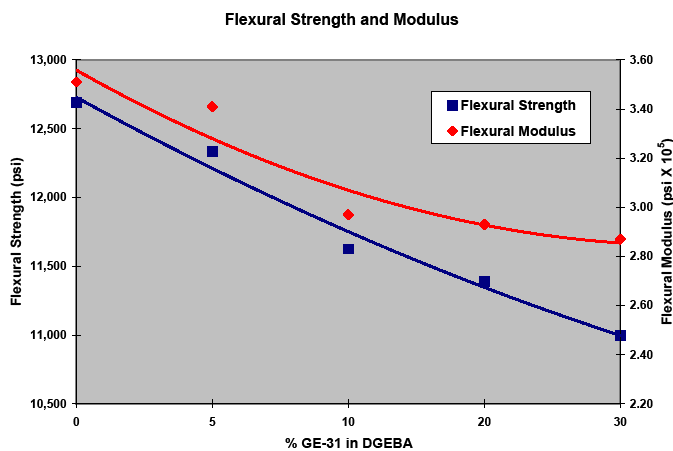
Tg and WATER ABSORPTION



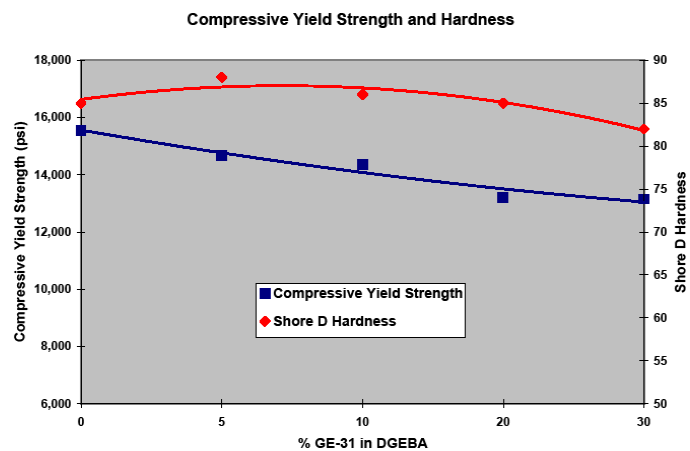
TENSILE PROPERTIES



FLEXURAL PROPERTIES



COMPRESSIVE STRENGTH and HARDNESS



Physical Properties Report		ERISYS GE-31 in EPALLOY 7190			
Epalloy 7190	100	95	90	80	70
Erisys GE-31	0	5	10	20	30
TETA	13.0	13.0	13.2	13.4	13.8
Resin Viscosity @ 25°C (cps)	12,700	7,700	6,300	3,600	2,200
100 gram gel time (mins)	39	37	36	33	32
Tensile Strength (psi)	11,357	10,718	9,759	9,751	9,899
Tensile Elongation (%)	8.1	8.1	7.8	9.5	9.5
Tensile Modulus (psi x 10 ⁵)	2.00	1.95	1.86	1.82	1.82
Flexural Strength (psi)	12,687	12,337	11,625	11,390	10,996
Flexural Modulus (psi x 10 ⁵)	3.51	3.41	2.97	2.93	2.87
Compressive Yield Strength	15,552	14,680	14,370	13,200	13,150
Compressive Modulus (psi x 10 ⁵)	2.29	2.34	2.40	2.29	2.52
Shore D Hardness	85	88	86	85	82
Tg (°C)	116	107	110	103	85
Water Absorption (28 days @ RT)	0.4	0.4	0.4	0.5	0.6
Water Absorption (2 hour boil)	0.4	0.4	0.5	0.5	0.8

HEALTH & SAFETY PRECAUTIONS

ERISYS GE-31 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 GE-31 for additional safety and health information. The MSDS is revised as new data becomes available.

PACKAGING & AVAILABILITY

ERISYS GE-31 is available in 55 gal. non-returnable steel drums (net weight 480 lbs.) and 5 gal. plastic pails (45 lbs. net). Bulk shipments are available with adequate lead-time. Drum inventory is available at most CVC regional warehouses. Check with your local sales representative for the shipping location nearest you.

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