

**ERISYS™ GE-13**  
**Phenyl Glycidyl Ether**  
**Aromatic Monofunctional Reactive Diluent**  
**CAS NO. 122-60-1**  
**EINECS 204-557-2**

## DESCRIPTION

ERISYS GE-13, epoxidized phenol, is an aromatic monofunctional diluent. GE-13 is intended for use as a reactive diluent for high viscosity epoxy resins, and it is compatible at all concentrations with those resins.

GE-13 is one of the most efficient viscosity reducing aromatic epoxides. It allows higher filler loading and improves substrate wetting. Resin/diluent blends can be cured using any curing agent suitable for epoxy crosslinking. Due to its aromatic structure, GE-13, when compared to aliphatic monofunctional epoxy diluents, has less of an effect on the cured properties of epoxy formulations.

## TYPICAL PROPERTIES

Appearance	Clear, Clean
Viscosity at 25°C, cps	4 - 7
Epoxide Equivalent Weight, g/eq	150 - 165
Gardner Color, max	2
Residual Epichlorohydrin, max ppm	10
Hydrolyzable Chloride, max %	0.10
Weight per Gallon, @ 25°C lbs.	9.2 ± 0.1
Flash Point, °C (°F)	114 (237)

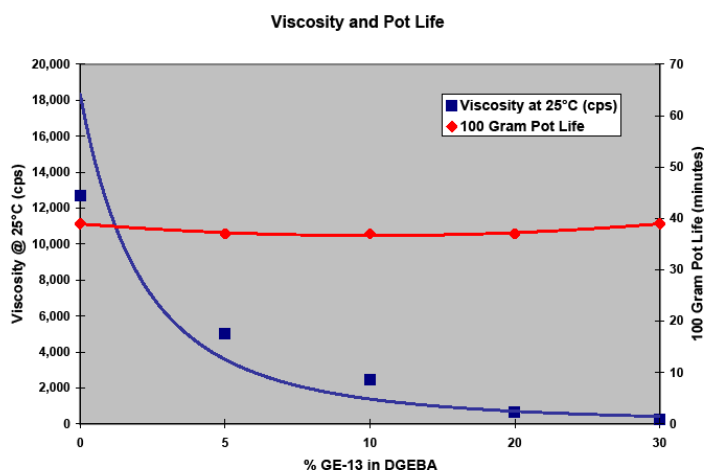
## HANDLING PROPERTIES

The use of ERISYS GE-13 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

## APPLICATIONS

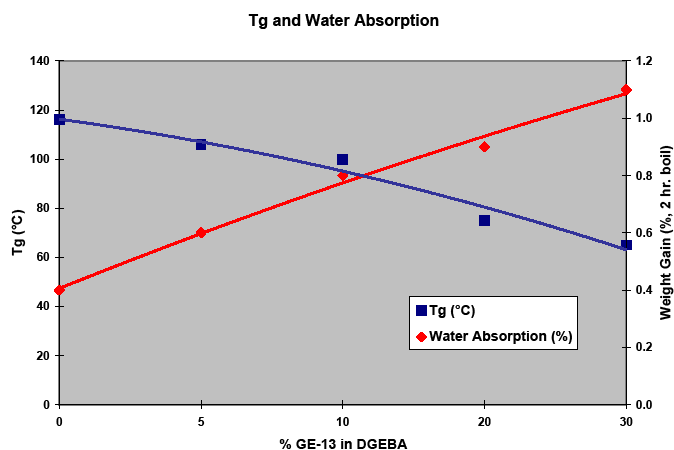
- ☐ Potting and Encapsulating
- ☐ Electrical Impregnation
- ☐ Curing Agent Adducts
- ☐ Tooling

## VISCOSITY AND POT LIFE

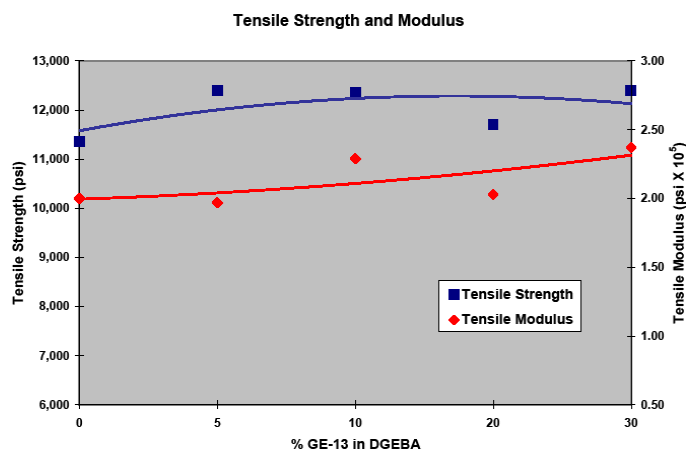


## THE EFFECT OF ERISYS GE-13 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA

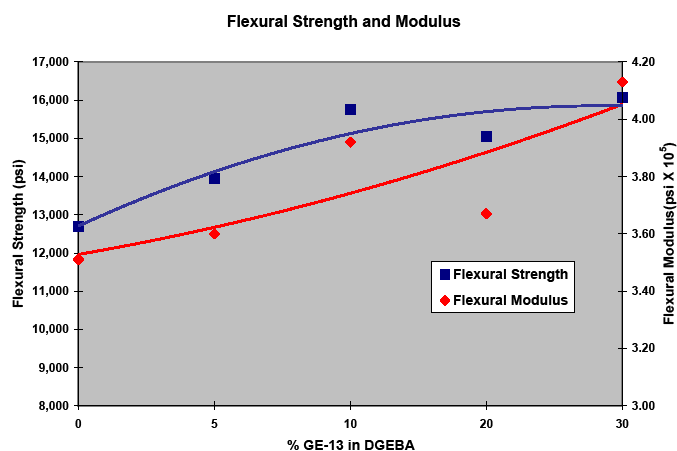
### Tg and WATER ABSORPTION



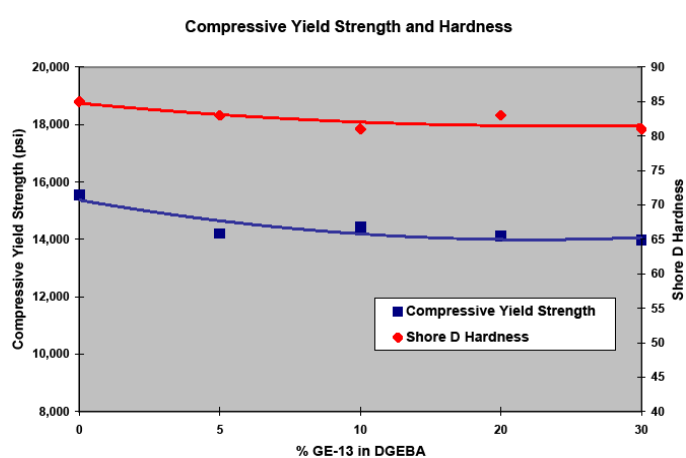
### TENSILE PROPERTIES



### FLEXURAL PROPERTIES



### COMPRESSIVE STRENGTH and HARDNESS



Physical Properties Report		ERISYS GE-13 in EPALLOY 7190			
Epalloy 7190	100	95	90	80	70
Erisys GE-13	0	5	10	20	30
TETA	13.0	13.0	13.2	13.4	13.8
Resin Viscosity @ 25°C (cps)	12,700	5,000	2,450	675	250
100 gram gel time (mins)	39	37	37	37	39
Tensile Strength (psi)	11,357	12,405	12,362	11,711	12,393
Tensile Elongation (%)	8.1	11.6	9.2	9.5	8.3
Tensile Modulus (psi x 10 <sup>5</sup> )	2.00	1.97	2.29	2.03	2.37
Flexural Strength (psi)	12,687	13,952	15,749	15,041	16,074
Flexural Modulus (psi x 10 <sup>5</sup> )	3.51	3.60	3.92	3.67	4.13
Compressive Yield Strength	15,552	14,202	14,426	14,129	13,960
Compressive Modulus (psi x 10 <sup>5</sup> )	2.29	2.59	2.89	2.93	2.91
Shore D Hardness	85	83	81	83	81
Tg (°C)	116	106	100	75	65
Water Absorption (28 days @ RT)	0.4	0.5	0.8	1.0	1.0
Water Absorption (2 hour boil)	0.4	0.6	0.8	0.9	1.1



An Emerald Performance Materials Company

ERISYS™ GE-13

## **HEALTH & SAFETY PRECAUTIONS**

ERISYS GE-13 is corrosive to the skin. Prolonged or repeated contact may cause drying, irritation and skin sensitization. The vapor pressure of PGE is less than .01 mmHg at room temperature and its density is significantly heavier than air.

Contact with skin should be completely avoided. For other than incidental contact, chemical resistant gloves and appropriate protective clothing are the best protection.

Refer to **CVC Thermoset Specialties** Material Safety Data Sheet on ERISYS GE-13 for additional safety and health information. The MSDS is revised as new data becomes available.

## **PACKAGING & AVAILABILITY**

ERISYS GE-13 is available in 55 gallon steel non-returnable drums (480 lbs. net) and 5 gallon plastic pails (40 lbs. net). Bulk deliveries are available on special request.

## **DISCLAIMER**

The information contained herein is believed to be reliable, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications or the results to be obtained there from. The information is based on laboratory work with small-scale equipment and does not necessarily indicate end product performance. Because of the variations in methods, conditions, and equipment used commercially in processing these materials, no warranties or guarantees are made as to the suitability of the products for the applications disclosed. Full-scale testing and end product performance are the responsibility of the user. CVC Thermoset Specialties shall not be liable for and the customer assumes all risk and liability of any use or handling of any material beyond CVC's direct control. THE SELLER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Nothing contained herein is to be considered permission, recommendation, nor as an inducement to practice any patented invention without permission of the patent owner. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

CVC Thermoset Specialties—844 N. Lenola Road/Moorestown, NJ 08057  
An Emerald Performance Materials Company

© Copyright 2006 Emerald Performance Materials LLC. 6/2006

**CVC Thermoset Specialties**

844 North Lenola Road / Moorestown, NJ 08057 / Phone: 856-533-3000 / Fax: 856-533-3003 / [www.emeraldmaterials.com](http://www.emeraldmaterials.com)