

An Emerald Performance Materials Company

**ERISYS® GE-8**  
**C12-C14 Glycidyl Ether**  
**Aliphatic Monofunctional Epoxy**  
**Reactive Diluent**  
**CAS NO. 68609-97-2**

**DESCRIPTION**

ERISYS GE-8 is the monoglycidyl ether of a naturally occurring C12-C14 aliphatic alcohol. The primary use of GE-8 is as a reactive diluent for high viscosity epoxy resin. GE-8 is compatible at all concentrations with those resins and the blends can be cured using any epoxy resin curing agent.

GE-8 poses relatively low health risks due to its low vapor pressure and exceptionally low residual epichlorohydrin level. Formulations containing GE-8 are therefore recommended for use in poorly ventilated areas. A typical application of GE-8 would be as a diluent in the Part A of an 100% solids floor coating formulation. GE-8 is approved, under CFR 175-105, for potable water applications.

As with all monofunctional aliphatic epoxides, increasing levels of GE-8 in epoxy resins will lengthen gel times and modify cured properties. See the following table and graphs for the extent of the modifications.

**APPLICATIONS**

- Flooring
- Decorative Gravel Surfaces/Structures
- Potting & Encapsulation
- General Purpose Adhesives

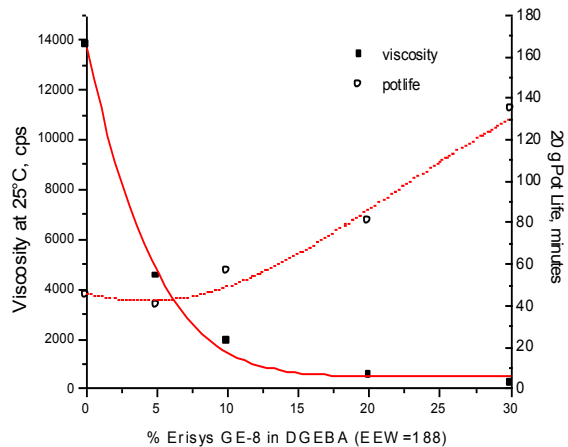
**TYPICAL PROPERTIES**

Appearance	Clear, Clean
Viscosity @ 25° C, cps	5 – 10
Epoxide Equivalent Weight, g/eq	275 – 300
APHA Color, max	100
Residual Epichlorohydrin, max ppm	10
Hydrolyzable Chloride, max %	0.05
Weight per Gallon, @ 25°C, lbs.	7.4 ± 0.1
Flash Point, °C (°F)	>94(>200)

**HANDLING PROPERTIES**

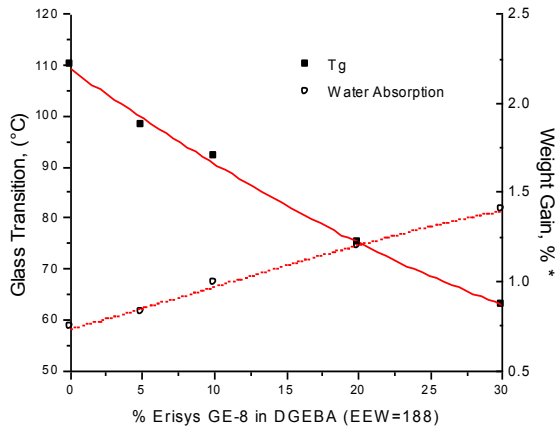
The use of ERISYS GE-8 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

**VISCOSITY AND POT LIFE**

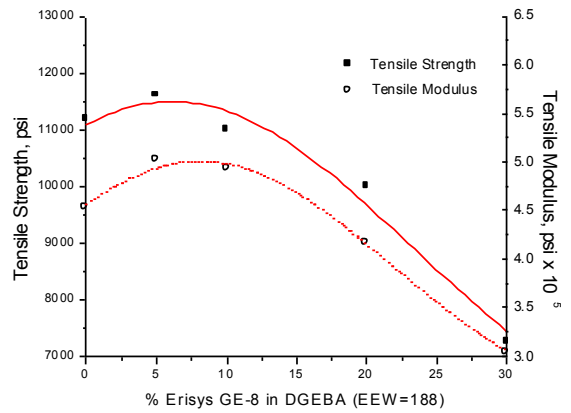


**HANDLING PROPERTIES (Continued)**

**Tg and MOISTURE PICKUP**



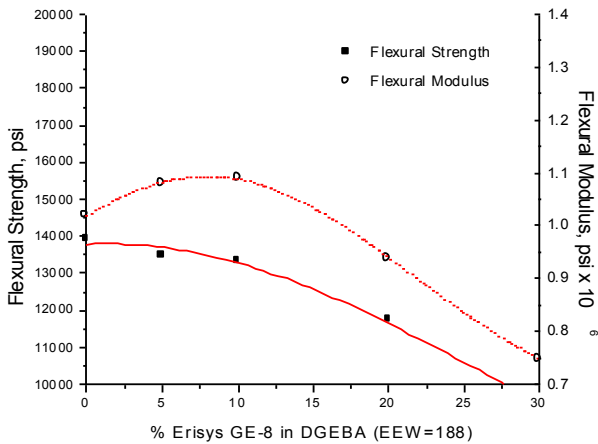
**TENSILE PROPERTIES**



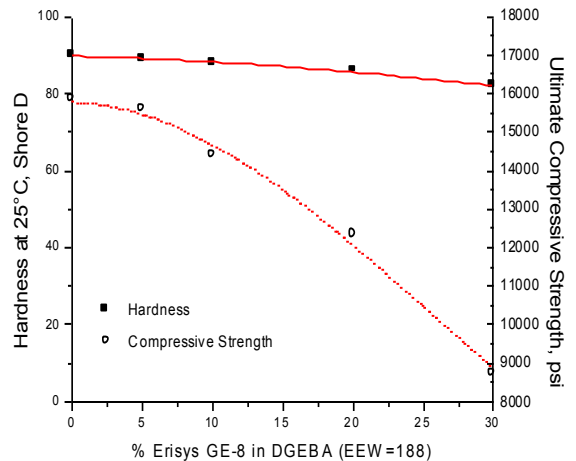
\*After 2 hours in boiling water

**THE EFFECT OF ERISYS GE-8 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA**

**FLEXURAL PROPERTIES**



**HARDNESS and COMPRESSIVE STRENGTH**



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**PROPERTIES OF DGEBA/GE-8/TETA SYSTEMS**

FORMULATION, pbw	A	B	C	D	E
DGEBA (EEW-188)	100.0	95.0	90.0	80.0	70.0
ERISYS GE-8	0	5.0	10.0	20.0	30.0
Triethylenetetramine	13.0	12.7	12.4	11.8	11.3
<b>RESULTS</b>					
<b>HANDLING PROPERTIES</b>					
Viscosity @ 25° C of resin					
portion only, cps	13,800	4,500	1,908	513	197
20 g Pot Life, hours:minutes	0:45	0:40	0:56	1:20	2:14
<b>CURED PROPERTIES*</b>					
<b>TENSILE</b>					
Strength, psi	11,165	11,600	11,000	10,005	7,250
MPa	77	80	80	69	50
Elongation, %	4.2	5	6	6.8	5.7
Modulus, psi	4.53E + 05	5.02E + 05	4.92E + 05	4.16E + 05	3.04E + 05
MPa	3,127	3,465	3,391	2,870	2,098
<b>FLEXURAL</b>					
Strength, psi	13,920	13,485	13,340	11,745	9,425
MPa	96	93	92	81	65
Modulus, psi	1.02E + 06	1.08E + 06	1.09E + 06	9.38E+05	7.47E + 05
MPa	7,063	7,446	7,484	6,470	5,152
<b>COMPRESSIVE</b>					
Strength at yield, psi	7,067	8,800	8,667	7,433	5,300
MPa	49	61	60	51	37
Ultimate strength, psi	15,833	15,567	14,370	12,333	8,733
MPa	109	107	99	85	60
<b>HARDNESS @ 25°C,</b>					
D durometer	90	89	88	86	82
<b>GLASS TRANSITION TEMPERATURE,</b>					
° C	110	98	92	75	63
° F	230	208	198	167	145
<b>WATER ABSORPTION, WEIGHT GAIN AFTER:</b>					
28 Days in 25°C water, %	0.77	0.80	0.83	1.0	1.4
2 Hours in boiling water, %	0.74	0.83	0.99	1.2	1.4

\*Cure: gel at R.T. + 2 hours at 100°C

## **HEALTH & SAFETY PRECAUTIONS**

ERISYS GE-8 is not a primary irritant and 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. Rubber gloves, full eye protection, and protective clothing are recommended.

Refer to the **CVC Thermoset Specialties** Material Safety Data Sheet on ERISYS GE-8 for additional safety & handling information. The MSDS is revised as new data becomes available.

## **PACKAGING & AVAILABILITY**

ERISYS GE-8 is available in 55 gallon steel non-returnable drums (410 lbs. net) and 5 gallon plastic pails (35 lbs. net). Bulk deliveries are available on special request.

## **DISCLAIMER**

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