

An Emerald Performance Materials Company

**ERISYS® GE-30**  
**Trimethylolpropane Triglycidyl Ether**  
**CAS NO. 30499-70-8**

**DESCRIPTION**

ERISYS GE-30, is a low viscosity high epoxy functional resin. Based on trimethylol propane, ERISYS GE-30 provides excellent crosslinking with good reactivity making it ideal for 100% solids, adhesives and coatings. Blends of ERISYS GE-30 with most standard epoxy resins are possible and it can be cured with all standard curing agents suitable for epoxy resins. Cure speed is comparable to standard liquid Bisphenol A epoxy resins.

**APPLICATIONS**

- High Temperature Encapsulants/Adhesives
- High Temperature Sealants
- 100% Solids Epoxy Coatings

**TYPICAL PROPERTIES**

Appearance	Clear, Clean
Viscosity @ 25°C, cps	100 - 200
Epoxide Equivalent Weight, g/eq	135 - 150
APHA Color, max	100
Residual Epichlorohydrin, max ppm	10
Hydrolyzable Chloride, max %	0.10
Weight per Gallon, @ 25°C, lbs.	9.6 ± 0.1
Flash Point, °C (°F)	>94(>200)

**HEALTH & SAFETY PRECAUTIONS**

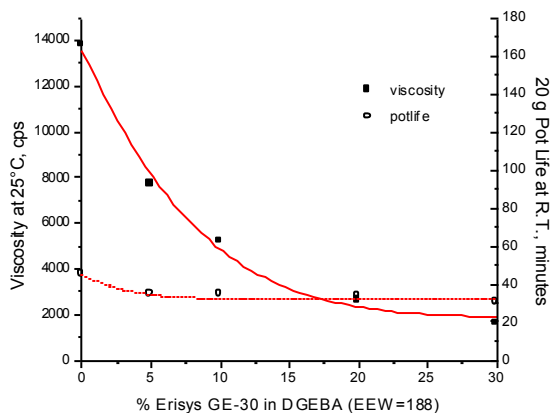
ERISYS GE-30 is not a primary skin irritant and sensitizer. However, as with any epoxy material, irritation can result from repeated or prolonged contact. The symptoms of this irritation may appear as a mild reddening or a more pronounced rash. It is, therefore, important to avoid skin contact where possible. Rubber gloves, full eye protection, and protective clothing are recommended.

Refer to the **CVC Thermoset Specialties** Material Safety Data Sheet on ERISYS GE-30 for additional safety & handling information. The MSDS is revised as new data becomes available.

**HANDLING PROPERTIES**

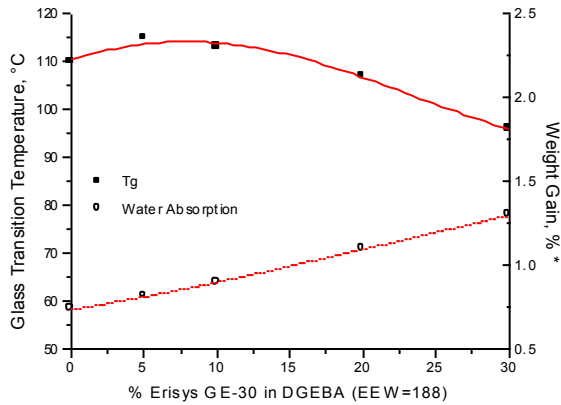
The use of ERISYS GE-30 will effect the handling and cured properties of resin formulations. The effects of these changes are shown below.

**VISCOSITY AND POT LIFE**

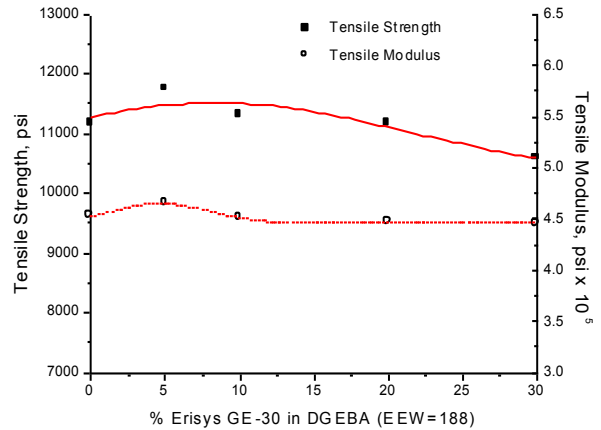


**HANDLING PROPERTIES (Continued)**

**Tg and MOISTURE PICKUP**



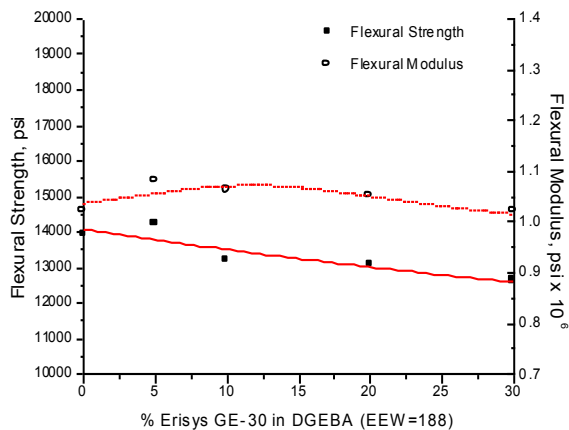
**TENSILE PROPERTIES**



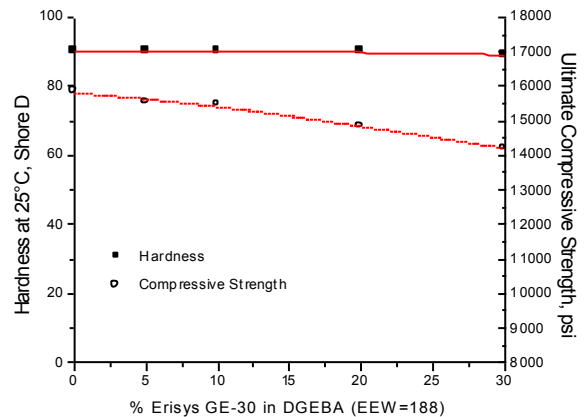
\*After 2 hours in boiling water

**THE EFFECT OF ERISYS GE-30 ON THE CURED PROPERTIES OF LIQUID EPOXY RESIN (EEW 188) CURED WITH TETA**

**FLEXURAL PROPERTIES**



**HARDNESS and COMPRESSIVE STRENGTH**



**PROPERTIES OF DGEBA/GE-30TETA SYSTEMS**

FORMULATION, pbw	A	B	C	D	E
DGEBA (EEW-188)	100.0	95.0	90.0	80.0	70.0
ERISYS GE-30	0	5.0	10.0	20.0	30.0
Triethylenetetramine	13.0	13.2	13.3	13.6	14
<b>RESULTS</b>					
<b>HANDLING PROPERTIES</b>					
Viscosity @ 25° C of resin portion only, cps	13,800	7,700	5,200	2,596	1,588
20 g Pot Life, hours:minutes	0:45	0:34	0:34	0:33	0:30
<b>CURED PROPERTIES*</b>					
<b>TENSILE</b>					
Strength, psi	11,165	11,745	11,310	11,165	10,585
MPa	77	81	78	77	73
Elongation, %	4.2	5.1	5.2	5.9	5.0
Modulus, psi	4.53E + 05	4.65E + 05	4.51E + 05	4.47E + 05	4.45E + 05
MPa	3,127	3,207	3,110	3,083	3,069
<b>FLEXURAL</b>					
Strength, psi	13,920	14,210	13,195	13,050	12,615
MPa	96	98	91	90	87
Modulus, psi	1.02E + 06	1.08E + 06	1.06E + 06	1.05E+06	1.02E + 05
MPa	7,063	7,419	7,303	7,215	7,034
<b>COMPRESSIVE</b>					
Strength at yield, psi	7,067	6,815	6,525	6,350	6,033
MPa	49	47	45	44	42
Ultimate strength, psi	15,833	15,533	15,467	14,833	14,200
MPa	109	107	107	102	98
<b>HARDNESS @ 25°C,</b>					
D durometer	90	90	90	90	89
<b>GLASS TRANSITION TEMPERATURE,</b>					
° C	110	115	113	107	96
° F	230	239	235	225	205
<b>WATER ABSORPTION, WEIGHT GAIN AFTER:</b>					
28 Days in 25°C water, %	0.77	0.78	0.85	0.97	1.1
2 Hours in boiling water, %	0.74	0.82	0.90	1.1	1.3

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

## **PACKAGING & AVAILABILITY**

ERISYS GE-30 is available in 55 gallon steel non-returnable drums (480 lbs. net) and 5 gallon plastic pails (45 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