



Technical Data Sheet

Re-issued August 2001

EPIKURE™ Curing Agent 3282

Product Description

EPIKURE™ Curing Agent 3282, a very reactive modified aliphatic amine adduct, has been developed for applications where relatively short cure periods at room temperature are required.

Application Areas/Suggested Uses

- Tooling gel coats
- Laminating compounds
- Adhesives

Sales Specification

Property	Units	Value	Test Method/Standard
Amine as KOH	mg/g	761-809	ASTM D2896
Viscosity at 25°C	cP	2,900-4,900	ASTM D2196
Color	Gardner	6	ASTM D1544

Typical Properties

Property	Units	Value	Test Method/Standard
Equivalent weight, approx.		38	
Pounds/gallon @ 25 °C	lbs/gal	8.92	ASTM D1475
Flash Point	°F	>200	Setaflash

General Information

Compositions based on EPON™ Resin 828 and EPIKURE Curing Agent 3282 cure readily at room temperature. The pot life of such compositions is highly dependent on the volume of the mixture, temperature, amount and type of filler loading, and, to a lesser extent, the presence of a reactive diluent. An indication of the reactivity of several unfilled systems under varying conditions is presented in Table 1.

EPIKURE Curing Agent 3282 is normally used at a weight ratio of 20 parts per 100 parts of liquid epoxy resin. Thin sections, where exothermic heat is readily dissipated, require 4 to 8 hours for the composition to cure to handling strength. The composition reaches full cure after 4 to 7 days. Thin sections may be cured

rapidly at moderately elevated temperatures, but thick sections should be allowed to exotherm before heat is applied. The maximum thickness recommended for an unfilled composition is approximately 1/2 inch. Maximum high temperature properties are obtained with a post cure of about 2 hours at 93 to 121 °C.

Performance Properties

Table 1 / Reactivity of compositions containing EPIKURE™ Curing Agent 3282

	<u>Units</u>	<u>A</u>	<u>B</u>	<u>C</u>
EPON™ Resin 828	pbw	100	---	80
EPON Resin 815	pbw	---	100	---
HELOXY™ Modifier 61	pbw	---	---	20
EPIKURE Curing Agent 3282	pbw	20	20	20

Handling Properties @ 25°C

Weight, <u>grams</u>	Thickness, <u>inch</u>	Gel Time, <u>min.</u>	Maximum Exotherm,		Gel Time, <u>min.</u>	Maximum Exotherm,		Gel Time, <u>min.</u>	Maximum Exotherm,	
			°F	°C		°F	°C		°F	°C
100	2	15	400	204	16	385	196	17	375	191
50	1	16	350	177	18	315	157	24	300	149
25	1	19	320	160	22	270	132	31	225	107
10	3/16	90	93	34	120	77*	25*	150	77*	25*

* No exothermic temperature rise.

A comparison of the properties of three formulations cured with EPIKURE Curing Agent 3282 is presented in Table 2. With the exception of heat deflection temperature, the properties of post-cured formulations are only slightly better than those cured at room temperature. The major effect of the reactive diluent in the low viscosity systems is on the elevated temperature physical properties of the cured formulations.

Table 2 / Properties of Systems Cured with EPIKURE Curing Agent 3282

	<u>Method</u>	<u>Units</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
EPON Resin 828		pbw	100	100	---	---	80	80
EPON Resin 815		pbw	---	---	100	100	---	---
HELOXY Modifier 61		pbw	---	---	---	---	20	20
EPIKURE Curing Agent 3282		pbw	20	20	20	20	20	20

Handling Properties @ 25° C

Viscosity, Initial	cP	10,000	10,000	800	800	450	450
--------------------	----	--------	--------	-----	-----	-----	-----

Gel Time, 100 gram mass		minutes	15	15	16	16	17	17
Cure Schedule		hrs/°C	16/25		16/25		16/25	
			2/100		2/100		2/100	
		wk/°C		3/25		3/25		3/25
Cured State Properties ¹								
Heat Deflection Temperature	ASTM D648	°C	99	60	73	50	50	46
Tensile Strength	ASTM D638	psi	11,000	10,000	10,500	9,500	9,500	9,000
Tensile Elongation at break		%	3.8	0.8	6.8	3.8	10.0	6.0
Flexural Strength	ASTM D790	psi	19,900	18,500	19,400	18,000	15,700	15,300
Flexural Modulus		ksi	550	580	520	550	490	510
Compressive Strength, yield		psi	16,100	14,500	14,500	13,500	13,250	12,500
Izod impact, notched	ASTM D256	ft. •lb./in.	0.46	0.36	0.44	0.34	0.41	0.32
Hardness		Shore D	90	89	89	87	88	86
Weight loss ²		%	0.10	0.18	0.72	0.68	1.57	1.68
Chemical Resistance								
Water absorption ³		%	0.10	0.10	0.15	0.15	0.20	0.19
Electrical Properties								
Dielectric constant ⁴	ASTM D150		4.19	---	4.20	---	4.20	---
Dissipation factor ⁴			0.026	---	0.024	---	0.023	---
Volume resistivity								
at 25 °C		ohm•cm	2.8x10 ¹⁶	---	1.5x10 ¹⁶	---	6.1x10 ¹⁵	---
at 66 °C		ohm•cm	1.0x10 ¹⁵	---	4.2x10 ¹³	---	2.2x10 ¹¹	---
at 93 °C		ohm•cm	8.0x10 ¹²	---	1.8x10 ¹¹	---	6.1x10 ⁹	---
at 130 °C		ohm•cm	6.0x10 ¹⁰	---	<10 ⁹	---	<10 ⁹	---

¹ Determined on 1/8-inch thick test specimens at 25 °C. Systems A,C and E were cured for 16 hours at 25 °C followed by a post cure of 2 hours at 100 °C. Systems B,D and F were cured for 3 weeks at 25 °C.

² Percent weight loss after 24 hours at 150 °C.

³ Percent weight gain after 24 hours immersion at 25 °C.

⁴ Determined at 106 Hertz.

Safety, Storage & Handling

Please refer to the MSDS for the most current Safety and Handling information.

Please refer to the Hexion web site for Shelf Life and recommended Storage information.

EPIKURE Curing Agent 3282 should be stored in tightly sealed, completely filled containers of metal, glass, or polyolefin plastic at normal room temperatures. The curing agent may darken during long-term storage, the extent of color formation depending on storage temperature and exposure to air.

Exposure to these materials should be minimized and avoided, if feasible, through the observance of proper precautions, use of appropriate engineering controls and proper personal protective clothing and equipment, and adherence to proper handling procedures. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheet (MSDS) for these and all other products being used are understood by all persons who will work with them. Questions and requests for information on Hexion Inc. ("Hexion") products should be directed to your Hexion sales representative, or the nearest Hexion sales office. Information and MSDSs on non-Hexion products should be obtained from the respective manufacturer.

Packaging

Available in bulk and drum quantities.

Contact Information

For product prices, availability, or order placement, please contact customer service:
www.hexion.com/Contacts/

For literature and technical assistance, visit our website at: www.hexion.com

© and ™ Licensed trademarks of Hexion Inc.

DISCLAIMER

The information provided herein was believed by Hexion Inc. ("Hexion") to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information, to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. All products supplied by Hexion are subject to Hexion's terms and conditions of sale. **HEXION MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY HEXION,** except that the product shall conform to Hexion's specifications. Nothing contained herein constitutes an offer for the sale of any product.

PDS-3531- (Rev.6/1/2015 11:17:33 AM)