

D.E.R. 354

Liquid Epoxy Resin

Description

D.E.R.* 354 liquid epoxy resin is a liquid reaction product of bisphenol-F and epichlorohydrin.

Introduction

D.E.R. 354 liquid epoxy resin is an unmodified bisphenol-F based epoxy resin of low viscosity. It is compatible with common epoxy resins and can be blended with them in any ratio. It achieves a high degree of cure at ambient temperatures, providing improved resistance performance against solvents compared to standard bisphenol-A liquid epoxy resins. A wide variety of curing agents is available to cure this resin at ambient conditions. Most frequently used are aliphatic polyamines, polyamides and modified versions of these. Elevated temperature cure is necessary and post-cure is required to develop full end properties if anhydride or catalytic curing agents are employed.

Typical Applications

This product is suitable for use in applications such as:

- Adhesives
- Casting and Tooling
- Civil Engineering
- Composites
- Coil Coating
- Marine & Protective Coatings
- Photocure Industrial Coatings
- Potting and Encapsulation

Safety and Handling

The Dow Chemical Company provides its customers with a product specific Material Safety Data Sheet (MSDS) to cover potential health effects, safe handling, storage, use and disposal information. Dow strongly encourages its customers to review the MSDS on its products and other materials prior to their use. For further handling information consult the Dow brochure entitled, *DOW Epoxy*

Typical Properties¹

Epoxide Equivalent Weight, (g/eq)	168 - 182	ASTM D-1652
Percentage Epoxide, (%)	23.6 - 25.6	ASTM D-1652
Epoxide Group Content, (mmol/kg)	5500 - 5950	ASTM D-1652
Viscosity @ 25°C (77°F), (mPa.s)	3500 - 5700	ASTM D-445
Color, Gardner	4 Max.	ASTM D-1544
Density @ 25°C (77°F), (g/ml)	1.19	ASTM D-4052
Hydrolyzable Chloride Content, (ppm)	1500 Max.	RPM 105-D
Non-volatile Content, (wt. %)	100	DowM 101188-TE
Water Content, (ppm)	1000 Max.	ASTM E-203
Shelf Life, (Months)	24	

¹ Typical properties; not to be construed as specifications

Resins Product Stewardship Manual, Safe Handling and Storage, Form No. 296-00312-898.

Product Stewardship

The Dow Chemical Company has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis of our Product Stewardship philosophy by which we assess the health and environmental information on our products and then take the appropriate steps to protect employee and public health and the environment. The Dow Chemical Company has enduring commitments to Responsible Care® in the management of chemicals worldwide. Our Product Stewardship program rests with every individual involved with Dow products from the initial concept and research to the manufacture, sale, distribution, and disposal of each product.

Customer Notice

Dow encourages its customers and potential users of Dow products to review their applications for such products from the standpoint of human health and environmental quality. To help ensure that Dow products are not used in ways for which they were not intended or tested, Dow personnel are available to assist customers in dealing with ecological and product safety considerations.

Your Dow sales representative can arrange for the proper contacts. Dow literature, including Material Safety Data Sheets should be consulted prior to the use of Dow products.

Food Contact Statement

When properly formulated and cured for food contact applications, this resin will comply with the U.S. Food, Drugs and Cosmetics Act as amended under Food Additive Regulation 21 CFR 175.300. This use is subject to good manufacturing practices and limitations specified in each regulation, which should be consulted for complete details.

If your applications include food contact requirements, please contact your Dow representative for further information and forthcoming EC regulations. Also consult the Dow data sheet, *Food Additive Status for Epoxy Resins, Curing Agents and Epoxy Novolac Resins*, Form No. 296-01425.

Regulatory Status

D.E.R. 354 liquid epoxy resin is regarded as a polymer according to the 6th Amendment of Council Directive 67/548/EEC and as a substance according to Council Directive 92/32/EEC of 30 April 1992; the 7th Amendment of that same directive. D.E.R. 354 epoxy resin has been reported to the EC Commission as a No-Longer Polymer (NLP), is registered under NLP # 500-108-2, and is, therefore, exempt from the European Inventory of Existing Chemical Substances (EINECS). In addition, Dow confirms that the chemicals and intentional additives which form the basis of this product are listed on EINECS. With respect to China, please note that there is currently no formal Chinese Chemical Inventory legislation in place. The Chinese Authorities are in the process of drafting such legislation. There is in place an "Informal 1997 PRC Chemical Inventory List" and D.E.R. 354 epoxy resin (CAS # 28064-14-4) is listed on it.

Chemical Inventory List

CAS Number*		28064-14-4
Europe	EINECS	NLP # 500-108-2
United States	TSCA	28064-14-4
Canada	DSL	28064-14-4
Australia	AICS	28064-14-43
Japan	MITI	7-2044
Korea	KECL	KE-28226
Philippines	PICCS	28064-14-4
China	Informal 1997 PRC Inventory	28064-14-4

* Please refer to the Material Safety Data Sheet (MSDS) or SDS for this product to ensure this CAS number is consistent with the product(s) you use.

For more information on the regulatory status of this product, please refer to the Material Safety Data Sheet (MSDS) or SDS for this product.

For additional information:

In the U.S. and Canada,
Contact the Customer Information Group at:
1-800-441-4369 or 517-832-1426
Fax: 517-832-1465

In the Pacific,
Contact the Dow Customer Service Center at:
81-120-024394 (toll-free in Japan) or
81-3-5460-2114 (outside Japan)

In Europe, Middle East and Africa,
Contact the Dow Information Center at:
++31-20-6916268
Fax: ++ 31-20-6916418

In Latin America,
Contact the Dow Chemical Service Center at:
In Brazil, call 55 11 51889367
In Mexico, call 95-800-441-4369 (toll-free in Mexico) or
52-5-2014718 (outside Mexico)
In Argentina, call 54-11-4390329

Visit our Web site at www.dowepoxy.com

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