

**D.E.R.™ 358**

Liquid Epoxy Resin

Description

D.E.R.™ 358 Liquid Epoxy Resin is a reaction product of bisphenol A and bisphenol F with epichlorohydrin, modified with a di-functional reactive diluent.

Introduction

D.E.R. 358 Liquid Epoxy Resin is a bisphenol A/F based epoxy resin modified with 1,6-hexanediol diglycidyl ether, a di-functional reactive diluent.

Crystallization, often a problem with conventional epoxy resins, is essentially non-existing with this low viscosity liquid epoxy resin. This enhanced crystallization resistance greatly improves the formulation stability, reduces the handling costs, makes emptying drums easier.

D.E.R. 358 Liquid Epoxy Resin is compatible with common aromatic liquid epoxy resins and can be blended with them in any ratio. The use of a di-functional reactive diluent is mainly responsible for the improved reactivity as well as solvent resistance compared to similar products modified with a mono-functional reactive diluent.

This resin is used in the production of fiber reinforced plastic moldings where low viscosity is an important process parameter such as in Resin Transfer Molding (RTM) and Resin Infusion Molding (RIM).

A wide variety of curing agents is available to cure this liquid epoxy resin at ambient conditions. Most frequently used are cycloaliphatic polyamines, polyamides, amidoamines, and modified versions of these. These systems are sometimes cured at elevated temperatures to improve selected properties such as chemical resistance and glass transition temperature. If anhydride or catalytic curing agents are employed, elevated temperature and long-post cures are required to develop full end properties.

Typical Applications

This product is suitable for use in applications such as:

- Adhesives
- Casting and Tooling
- Civil Engineering
- Composites
- Marine and Protective Coatings
- Potting and Encapsulation

Typical Properties

Property ⁽¹⁾	Value	Method
Epoxide Equivalent Weight (g/eq)	170 – 180	ASTM D-1652
Epoxide Percentage (%)	23.9 – 25.3	ASTM D-1652
Epoxide Group Content (mmol/kg)	5560 – 5880	ASTM D-1652
Color (Gardner)	2 Max.	ASTM D-1544
Viscosity @ 25°C (mPa s)	600 – 750	ASTM D-445
Density @ 25°C (g/ml)	1.14	ASTM D-4052
Non-Volatile Content (wt%)	99.5 Min.	DowM 101188
Shelf Life (Months)	24	

(1) Typical properties, not to be construed as specifications.

Safety and Handling

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

D.E.R.[™] 358 Liquid Epoxy Resin is supplied in bulk, in 1000 kg intermediate bulk containers or in 225 kg tight-head drums. The resin should be stored in a dry place in its original closed packaging. D.E.R. 358 Epoxy Resin should retain its chemical properties for a period of at least 24 months.

For further handling information consult the Dow brochure entitled, *DOW Epoxy Resins Product Stewardship Manual, Safe Handling and Storage*, Form No. 296-00312 and the Dow technical bulletin, *Product Coding, Shelf-life and Storage Stability*, Form No. 296-01657.

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 MSDS or SDS, should be consulted prior to the use of Dow products.

[™] Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

[®] Responsible Care is a service mark of the American Chemistry Council in the United States

D.E.R. 358 Liquid Epoxy Resin

Form No. 296-01522-1207X-TD

Medical Application Policy

Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- (a) permanent (long term) contact with internal body fluids or internal body tissues. Long term is a use which exceeds 72 continuous hours (except 30 days for PELLETHANE™ Polyurethane Elastomers);
- (b) use in cardiac prosthetic devices regardless of the length of time involved (cardiac prosthetic devices include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems and ventricular bypass assisted devices);
- (c) use as a critical component in medical devices that support or sustain human life; or
- (d) use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Additionally, all Products intended for use in pharmaceutical applications must pass the then current Pharmaceutical Liability Guidelines. For additional information please contact your regular Dow representative.

Food Contact Statement

This epoxy resin does NOT comply with U.S. Food, Drugs and Cosmetics Act as amended under Food Additive Regulation 21 CFR 175.300.

If your applications include food contact requirements, please contact your Dow representative for further information and forthcoming EC regulations.

Regulatory Status

This liquid epoxy resin is a mixture of a standard bisphenol A/F liquid epoxy resin with hexanediol glycidyl ether. The base epoxy resin components are regarded as a polymers according to the 6th Amendment of Council Directive 67/548/EEC and as a substances according to Council Directive 92/32/EEC of 30 April 1992; the 7th Amendment of that same directive. The aromatic epoxy resin components of this product have been reported to the EC Commission as a No-Longer Polymers (NLP), and are registered under NLP # 500-033-5 and 500-108-2, and are, 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.

The reactive diluent utilized in the composition of this epoxy resin blend, hexanediol glycidyl ether, is listed under the number 240-260-4 on EINECS.

For more information on the regulatory status of this product, please refer to the MSDS or SDS for this product.

Chemical Inventory Listing

CAS Number ⁽¹⁾		25068-38-6 (25085-99-8) / 28064-14-4 / 16096-31-4
Europe	EINECS	NLP # 500-033-5 / 500-108-2 / EINECS # 240-260-4
United States	TSCA	25068-38-6 / 28064-14-4 / 16096-31-4
Canada	DSL	25068-38-6 / 28064-14-4 / 16096-31-4
Australia	AICS	25068-38-6 / 28064-14-4 / 16096-31-4
Japan	ENCS	7-1279 / 7-2044 / 7-1280
Korea	KECI	KE-24083 / KE-28226 / KE-3109
Philippines	PICCS	25068-38-6 / 28064-14-4 / 16096-31-4
China	SEPA	25068-38-6 / 28064-14-4 / 16096-31-4

(1) Please refer to the MSDS or SDS for this product to ensure this CAS number is consistent with the product(s) you use.

Contact information:

North America: 800-441-4369
+1-989-832-1426
+1-989-832-1465 (fax)
Mexico: +1-800-441-4369
Brazil: +55-11-5188-9222
+55-11-5188-9749 (fax)
Europe: +800-3-694-6367
+32-3-450-2240
+32-3-450-2815 (fax)
Asia Pacific: +800-7776-7776#
+800-7779-7779# (fax)
+60-3-7958-3392
+60-3-7958-5598 (fax)

except Indonesia and Vietnam

<http://www.dowepoxy.com>

Notice: No freedom from any patent owned by Dow or others is to be inferred. Dow assumes no obligation or liability for the information in this document. The information provided herein is presented in good faith and is based on the best of Dow's knowledge, information, and belief. Since use conditions at non-Dow facilities are beyond Dow's control and government requirements may differ from one location to another and may change with time, it is solely the Buyer's responsibility to determine whether Dow's products are appropriate for the Buyer's use, and to assure the Buyer's workplace, use, and disposal practices are in compliance with applicable government requirements. Consequently, Dow assumes no obligation or liability for use of these materials and makes no warranty, express or implied. The user of the information provided is solely responsible for compliance with any applicable government requirements. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

