



## D.E.R.<sup>™</sup> 356

### Liquid Epoxy Resin

#### Description

D.E.R.<sup>™</sup> 356 Liquid Epoxy Resin is a reaction product of epichlorohydrin with bisphenol A and bisphenol F.

#### Introduction

D.E.R. 356 Liquid Epoxy Resin is a diluent free, low viscosity liquid epoxy resin. D.E.R. 356 Liquid Epoxy Resin combines in one resin the performance properties of standard bisphenol A liquid epoxy resin with the low viscosity of bisphenol F liquid epoxy resin.

Crystallization, often a problem with conventional low viscosity resins, is essentially nonexistent with D.E.R. 356 Liquid Epoxy Resin. D.E.R. 356 Liquid Epoxy Resin is compatible with common liquid epoxy resins and can also be blended with other materials such as diluents/hydrocarbon resins to increase flexibility or obtain other specific properties.

D.E.R. 356 Liquid Epoxy Resin can be used for solvent-free coatings, flooring formulations, concrete reinforcements, structural adhesives, epoxy coal tar combinations and other civil engineering applications. The product performance is very similar to that obtained with D.E.R. 352 Resin except that this resin will provide a more rapid cure (higher reactivity).

#### Typical Applications

This product is suitable for use in applications such as:

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

#### Typical Properties

Property <sup>(1)</sup>	Value	Method
Epoxide Equivalent Weight (g/eq)	176 – 183	ASTM D-1652
Epoxide Percentage (%)	23.5 – 24.4	ASTM D-1652
Epoxide Group Content (mmol/kg)	5460 – 5680	ASTM D-1652
Color (Gardner)	2 Max.	ASTM D-1544
Viscosity @ 25°C (mPa s)	6500 – 8000	ASTM D-445
Density @ 25°C (g/ml)	1.17	ASTM D-4052
Non-Volatile Content (wt%)	100 Min.	DowM 101188
Shelf Life (Months)	18	

(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.

**Safety and Handling**  
*(continued)*

D.E.R.™ 356 Liquid Epoxy Resin is supplied in bulk, in 1000 kg intermediate bulk container or in 240 kg tight-head drums. The resin should be stored in a dry place in its original closed packaging. D.E.R. 356 Epoxy Resin should retain its chemical properties for a period of at least 18 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.

**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**

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 (b)(3)(viii)(a); "Epoxy resins, as basic polymer". This use is also subject to good manufacturing practices and any limitations specified in each regulation. Please consult the regulations 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.

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D.E.R. 356 Liquid Epoxy Resin

Form No. 296-01521-1207X-TD

## Regulatory Status

The base epoxy resin components of this epoxy resin blend are regarded as polymers according to the 6<sup>th</sup> Amendment of Council Directive 67/548/EEC and as substances according to Council Directive 92/32/EEC of 30 April 1992; the 7<sup>th</sup> Amendment of that same directive. These substances have been reported to the EC Commission as No-Longer-Polymers (NLP), are registered under NLP # 500-033-5 and NLP # 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.

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

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

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