



## D.E.R.<sup>TM</sup> 337

### Liquid Epoxy Resin

#### Description

D.E.R.<sup>TM</sup> 337 Liquid Epoxy Resin is a semi-solid reaction product of epichlorohydrin and bisphenol-A.

#### Introduction

D.E.R. 337 Epoxy Resin is an intermediate epoxy equivalent weight epoxy resin, mainly used in adhesives and protective coatings, or as a modifier for other epoxy resins to improve impact strength, extensibility and adhesion.

The excellent resistance and physical properties have established D.E.R. 337 Epoxy Resin as a major raw material for epoxy coal tar combinations and higher solids content marine coatings. D.E.R. 337 Resin can be used to modify performance as well as handling properties of liquid epoxy resin, such as D.E.R.<sup>TM</sup> 331<sup>TM</sup> Resin, and epoxy novolac type of resins, such as D.E.N.<sup>TM</sup> 431 Epoxy Novolac Resin and D.E.N.<sup>TM</sup> 438<sup>TM</sup> Epoxy Novolac Resin.

A wide variety of curing agents is available to cure this resin at ambient conditions. Most frequently used curing agents are aliphatic polyamines, polyamides and modified versions of these. Elevated temperature cure is necessary and post-cure 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
- Marine and Protective Coatings
- Potting and Encapsulation

#### Typical Properties

Property <sup>(1)</sup>	Value	Method
Epoxide Equivalent Weight (g/eq)	230 – 250	ASTM D-1652
Epoxide Percentage (%)	17.2 – 18.7	ASTM D-1652
Epoxide Group Content (mmol/kg)	4000 – 4350	ASTM D-1652
Color (Gardner)	3 Max.	ASTM D-1544
Viscosity @ 25°C (mPa·s)	400 – 800 <sup>(2)</sup>	ASTM D-445
Density @ 25°C (g/ml)	1.17	ASTM D-4052
Flash Point (°C)	252	ASTM D-93
Non-volatile Content (wt%)	99.5 Min.	ASTM D-2369
Shelf Life (Months)	24	

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

(2) 70 wt% in diethylene glycol monobutyl ether.

## **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.

This semi-solid epoxy resin is supplied in 220 kg tight-head drums. The resin should be stored in dry place in its original closed packaging. This epoxy resin should retain its chemical properties for a period of at least 24 months.

D.E.R.™ 337 Semi-solid Epoxy Resin has a high viscosity at ambient temperatures and will require pre-heating in order to become processible. Typically pre-heating of the drums, the standard supply form of D.E.R. 337 Semi-Solid Epoxy Resin, up to 50 - 60°C will suffice for the product to become liquid enough for drum emptying operations.

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 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.

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D.E.R. 337 Liquid Epoxy Resin

Form No. 296-01448-0106X-TD

## Food Contact Applications

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 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.

## Regulatory Status

D.E.R.™ 337 Semi-solid Epoxy Resin is regarded as a polymer according to the 6<sup>th</sup> Amendment of Council Directive 67/548/EEC and as a substance according to Council Directive 92/32/EEC of 30 April 1992; the 7<sup>th</sup> Amendment of that same directive. D.E.R. 337 Epoxy Resin has been reported to the EC Commission as a No-Longer Polymer (NLP), is registered under NLP # 500-033-5, 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.

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>	25068-38-6	
Europe	EINECS	Polymer
United States	TSCA	25068-38-6
Canada	DSL	25068-38-6
Australia	AICS	25068-38-6
Japan	ENCS	7-1279
Korea	KECL	KE-24000
Philippines	PICCS	25068-38-6
China	SEPA	25068-38-6

(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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