



## D.E.R.™ 337-X90

Epoxy Resin Solution

### Description

D.E.R.™ 337-X90 Epoxy Resin is a semi-solid reaction product of epichlorohydrin and bisphenol A dissolved in xylene.

### Introduction

D.E.R. 337-X90 Epoxy Resin is a solution of D.E.R. 337 Epoxy Resin in xylene solvent at a 90 wt% solids content. D.E.R. 337-X90 Epoxy Resin Solution is 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-X90 Epoxy Resin as a major raw material for epoxy coal tar combinations and higher solids content marine coatings. D.E.R. 337-X90 Resin can be used to modify the performance or handling of liquid epoxy resin such as D.E.R.™ 331™ Liquid Epoxy Resin, or epoxy novolac resins such as D.E.N.™ 431 and D.E.N.™ 438™ Epoxy Novolac 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. 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 marine and protective coatings.

### Typical Properties

Property <sup>(1)</sup>	Value	Method
Epoxy Equivalent Weight (g/eq)	230 – 250 <sup>(2)</sup>	ASTM D-1652
Epoxy Percentage (%)	17.2 – 18.7 <sup>(2)</sup>	ASTM D-1652
Epoxy Group Content (mmol/kg)	4000 – 4350 <sup>(2)</sup>	ASTM D-1652
Color (Gardner)	3 Max.	ASTM D-1544
Viscosity @ 25°C (mPa s)	5000 – 15000	ASTM D-445
Density @ 25°C (g/ml)	1.10	ASTM D-4052
Non-Volatile Content (wt%)	89 – 91	DowM 101188-TE
Solvent	Xylene	
Shelf Life (Months)	24	

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

(2) Based on solids.

## **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.™ 337-X90 Epoxy Resin Solution is supplied in bulk or in 220 kg tight-head drums. The resin should be stored in a dry place in its original closed packaging. This semi-solid epoxy resin solution 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.

## **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-X90 Epoxy Resin Solution

Form No. 296-01514-1007X-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(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.

## Regulatory Status

D.E.R.<sup>TM</sup> 337-X90 Resin is a solution of D.E.R. 337 Epoxy Resin in xylene. D.E.R. 337 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.

The xylene solvent component (CAS registration number 1330-20-7) in this epoxy resin solution is listed on EINECS under the registration number 215-535-7. A major impurity of the xylene solvent is ethylbenzene (EINECS 202-849-4, CAS number 100-41-4).

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 / 1330-20-7 (100-41-4)
Europe	EINECS	NLP # 500-033-5 / 215-535-7 (202-849-4)
United States	TSCA	25068-38-6 / 1330-20-7 (100-41-4)
Canada	DSL	25068-38-6 / 1330-20-7 (100-41-4)
Australia	AICS	25068-38-6 / 1330-20-7 (100-41-4)
Japan	ENCS	7-1279 / 3-3 (3-28)
Korea	KECI	KE-24000 / KE-35427 (KE-13532)
Philippines	PICCS	25068-38-6 / 1330-20-7 (100-41-4)
China	SEPA	25068-38-6 / 1330-20-7 (100-41-4)

(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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