



D.E.R.[™] 750

Liquid Epoxy Resin

Description

D.E.R.[™] 750 Liquid Epoxy Resin is a di-functional reactive diluent modified reaction product of epichlorohydrin with bisphenol-A.

Introduction

D.E.R. 750 Liquid Epoxy Resin is a low viscosity, dipropylene glycol diepoxide modified standard bisphenol-A based liquid epoxy resin. Typically, bisphenol-A-epichlorohydrin based epoxy resins and other di- or multi-functional resins, containing the aromatic ring structure, will cure to hard, rigid compositions having rather low impact and elongation characteristics. D.E.R. 750 Epoxy Resin has been designed to impart flexibility to what may otherwise be rather brittle, epoxy binder systems. Its reduced viscosity versus standard liquid epoxy resins offers improved surface wetting and better adhesion. The reactive diluent increases pot life as well as flexibility and impact resistance. The reactive diluent limits the solvent resistance somewhat whereas an improved acid resistance can be observed when cured at room temperatures.

A broad range of curing agents is available to cure this epoxy resin at ambient temperatures. Most frequently used are aliphatic and cycloaliphatic polyamines and modified versions of these. Elevated temperature cure is required to develop full end properties if anhydride or catalytic curing agents are employed.

Used in combination with cycloaliphatic amine-epoxy adduct curing agents, binders can be formulated with improved elongation at break. The improved flexibility makes these formulations especially suitable for applications such as civil engineering compounds (crack bridging) or adhesives. In combination with anhydrides or amine curing agents and a suitable elevated temperature curing schedule, the toughness of fiber reinforced composites can be improved significantly.

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)	176 – 186	ASTM D-1652
Epoxide Percentage (%)	23.1 – 24.4	ASTM D-1652
Epoxide Group Content (mmol/kg)	5375 – 5680	ASTM D-1652
Color (Gardner)	1 Max.	ASTM D-1544
Dynamic Viscosity @ 25°C (mPa·s)	2500 – 4500	ASTM D-445
Density @ 25°C (g/ml)	1.16	ASTM D-4052
Shelf Life (Months)	24	

(1) Typical property values only, 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.™ 750 Liquid Epoxy Resin is supplied in bulk or in 225 kg tight-head drums. The resin should be stored in a dry place in its original closed packaging. D.E.R. 750 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 world-wide. 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 repres

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D.E.R. 750 Liquid Epoxy Resin

Form No. 296-01628-0506X-TD

Food Contact Applications

This epoxy resin does NOT comply with the 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. Also consult the Dow data sheet, *Food Additive Status for Epoxy Resins, Curing Agents and Epoxy Novolac Resins*, Form No. 296-01425.

Regulatory Status

This epoxy resin is a combination of two components. The first component is regarded as a polymer according to the 6th Amendment of Council Directive 67/548/EEC as well as according to Council Directive 92/32/EEC of 30 April 1992; the 7th Amendment of that same directive, and is, therefore, exempt from the European Inventory of Existing Chemical Substances (EINECS). Regarding the CAS registration numbers for this Dow epoxy resin, please be informed that CAS registration number 41638-13-5 as well as CAS registration number 162303-54-0 and CAS registration number 9072-62-2 can be used to describe this material. All three CAS numbers describe epoxy resins produced by the condensation of epichlorohydrin with polypropylene glycol. Dow being an American Company, uses CAS registration number 41638-13-5 because this number is used in the US TSCA (Toxic Substances Control Act) documents. The second component 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. This resin has been reported to the EC Commission as No-Longer Polymer (NLP), is registered under the NLP # 500-033-5, and is, therefore, exempt from the 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	25085-99-8/41638-13-5 (162303-54-0/9072-62-2)	
Europe	EINECS	NLP # 500-033-5/Polymer
United States	TSCA	25085-99-8/41638-13-5
Canada	DSL	25085-99-8/41638-13-5
Australia	AICS	25085-99-8/41638-13-5
Japan	ENCS	7-1279/7-343
Korea	KECL	KE-24083/KE-27711
Philippines	PICCS	25085-99-8/41638-13-5
China	SEPA	25085-99-8/41638-13-5

(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>

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