

D.E.R. 331J

Liquid Epoxy Resin

Description

D.E.R.* 331J liquid epoxy resin is a reaction product of epichlorohydrin and bisphenol-A.

Introduction

D.E.R. 331J epoxy resin is a general purpose, widely used liquid epoxy resin. It is recognized as a standard from which many variations have been developed. The physical strength, toughness, excellent adhesion, chemical resistance and low shrinkage have established liquid epoxy resins as major raw materials for high quality solvent-free coatings, linings, industrial floorings, groutings, and concrete reinforcements. They are also used for tooling, encapsulation, adhesives, filament windings and laminates. D.E.R. 331J epoxy resin can also serve as a basis for advanced epoxy polymers from 1-type, through 9-type molecular weights to phenoxy resins, for a variety of solvent-borne, water-borne and UV-curable resins. Like D.E.R. 330, D.E.R. 331J liquid epoxy resin is also prone to crystallization especially at lower temperatures. However, this tendency to crystallize is, in general, less for D.E.R. 331J than for D.E.R. 330 liquid epoxy resin.

Typical Applications

This product is suitable for use in applications such as:

- Adhesives
- Casting and Tooling
- Civil Engineering
- Composites
- Automotive Coatings
- Can Coating
- Coil Coating
- Marine & Protective Coatings
- Photocure Industrial Coatings
- Potting and Encapsulation

Safety and Handling

The Dow Chemical Company provides its customers with a product

Typical Properties¹

Epoxy Equivalent Weight, (g/eq)	186 - 190	ASTM D-1652
Percentage Epoxide, (%)	22.6 - 23.1	ASTM D-1652
Epoxide Group Content, (m mol/kg)	5250 - 5375	ASTM D-1652
Viscosity @ 25°C (77°F), (mPa.s)	12000 - 15000	ASTM D-445
Color, Platinum Cobalt	40 Max.	ASTM D-1209
Hydrolyzable Chloride Content, (ppm)	300 Max.	RPM 105-D
Epichlorohydrin Content, (ppm)	5 Max.	RPM 900-A
Water Content, (ppm)	700 Max.	ASTM E-203
Density @ 25°C (77°F), (g/ml)	1.16	ASTM D-4052
Flash point, °C	252	ASTM D-93
Shelf Life, (Months)	24	

¹ Typical properties; not to be construed as specifications

specific Material Safety Data Sheet (MSDS) to cover potential health effects, safe handling, storage, use and disposal information. Dow strongly encourages its customers to review the MSDS on its products and other materials prior to their use. For further handling information consult the Dow brochure entitled, *Dow Epoxy Resins Product Stewardship Manual Safe Handling and Storage*, Form No. 296-00312.

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 Material Safety Data Sheets should be consulted prior to the use of Dow products.

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. This use is subject to good manufacturing practices and limitations specified in each regulation, which should be consulted 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

This epoxy resin 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 substance has been reported to the European Commission as No-Longer-Polymer (NLP), is registered under NLP number 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. With respect to China, please note that there is currently no formal Chinese Chemical Inventory legislation in place. The Chinese

Chemical Inventory List

CAS Number*		25085-99-8
Europe	EINECS	NLP # 500-033-5
United States	TSCA	25085-99-8
Canada	DSL	25085-99-8
Australia	AICS	25085-99-8
Japan	MITI	7-1279
Korea	KECL	KE-24083
Philippines	PICCS	25085-99-8
China	Informal 2000 PRC Inventory	25085-99-8

* Please refer to the Material Safety Data Sheet (MSDS) or SDS for this product to ensure this CAS number is consistent with the product(s) you use.

Authorities are in the process of drafting such legislation. There is in place an "Informal 2000 PRC Chemical Inventory List" and the above mentioned CAS Reg. Nr. is listed on it.

For more information on the regulatory status of this product, please refer to the Material Safety Data Sheet (MSDS) or SDS for this product.

For additional information:

In the U.S. and Canada,
Contact The Dow Customer Information Group at:
1-800-441-4369 or 989-832-1426
Fax: 989-832-1465

In Mexico,
Call 95-800-441-4369 (Toll Free) or
52-5-2014718 (Outside Mexico)

In Latin America,
For Brazil, call The Dow Customer Information Group at:
55 11 5188 9222 Fax: 55 11 5188 9749
In Argentina, call The Customer Service Center at:
54 11 4390329

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Email address: <http://www.dow.com/assistance/thoughts.htm>

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