D.E.H.™ 445

Epoxy Curing Agent

Description

D.E.H.™ 445 curing agent is a modified cycloaliphatic polyamine. It has very good chemical and mechanical resistance and is therefore suitable for highly stressed industrial floorings.

Advantages

- Very low tendency to yellowing in case of UV-irradiation
- Nonylphenol free
- Good water resistance after a short curing time.

Typical Applications

This product is suitable for use in applications such as:

- Industrial Flooring

Typical Properties

Property(1)	Method	Value
Appearance	Visual	Clear
Color, Gardner		Max 1
Density @ 25°C (g/ml)	ASTM D4052	1.02
Viscosity @ 25°C (mPa•s)	ASTM D445	370-570
Amine value [mgKOH/g]	ISO 9702	280-310
Amine Hydrogen Equivalent Weight	Calculated	105
Shelf Life (Months)		12

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

Typical Handling Properties

Property	Method	Value
		D.E.R. 331™ D.E.H. 445
Dry time (hrs)	ASTM D1640-03	5-6
Gel Time (min/100 g mass @25°C)[2]		35
Mix ratio, phr (weight)		56

(2) Tested by Paul N. Gardner Standard Model Gel Timer

Typical Performance Properties[3]

Property	Method	Value
		D.E.R. 331™
		D.E.H. 445
Mix ratio, phr (weight)		56
Film appearance	Visual	Semi- glossy
Glass Transition Temperature (°C)[(4)]		42
Hardness Shore D	ASTM D2240	79
Cross Hatch Adhesion	ASTM D3359	
@ 25°C/50% relative humidity		1B
@ 25°C/95% relative humidity		1B
Blushing		
@ 25°C/50% relative humidity		No
Flexural Strength (psi)		14503
Flexural Modulus (thousand psi)		481
Tensile Strength (psi)		8167
Tensile Modulus (thousand psi)		473
Elongation %		2.5

(3) Unless otherwise specified, properties obtained after more than 7 days cure at ambient temperature

(4) Glass transition temperature measured by DSC

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 curing agent should retain its chemical properties for a period of at least 12 months.

For further handling information, consult the Dow brochure entitled, *DOW Epoxy Curing Agents Product Stewardship Manual, Safe Handling and Storage,* Form No. 296-01331 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;

(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 Applications

This epoxy curing agent will not comply with the U.S. Food, Drugs and Cosmetics Act as amended under Food Additive Regulation 21 CFR 175.300.

Also consult the Dow data sheet, *Food Additive Status for Epoxy Resins, Curing Agents and Epoxy Novolac Resins*, Form No. 296-01425.

Regulatory Status

For more information on the regulatory status of this product, please refer to the MSDS or SDS for this product.

Chemical Inventory Listing

United States	TSCA

(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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