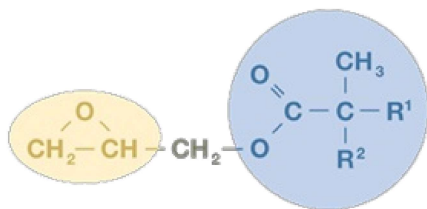


Technical Data Sheet

Cardura™ E10P Glycidyl Ester

Description

Cardura™ E10P glycidyl ester of Versatic™ Acid 10, a synthetic saturated monocarboxylic acid of highly branched C10 isomers. Its structure may be represented as:



R1 and R2 are alkyl groups. Cardura E10P glycidyl ester is a liquid product with a low viscosity, and a mild odour.

Applications

Cardura E10P glycidyl ester is used as an intermediate for the manufacture of resins and polymers and for different chemical syntheses via reactions with its epoxide group. Its unique reaction characteristics and properties make Cardura E10P glycidyl ester attractive for a wide variety of paint applications, particularly those based on polyesters, acrylics and epoxy resins.

Cardura E10P glycidyl ester is also used as a reactive diluent for epoxy resins based on bisphenol A, bisphenol F or blends of these two. Typical applications for Cardura E10P glycidyl ester diluted resins are solvent-free coatings curing at ambient temperature and compositions for the civil engineering industry, including floorings and concrete repair compounds. Cardura E10P glycidyl ester has good wetting characteristics and offers better crystallization resistance and improved chemical resistance in the diluted resin compared to many other diluents.

Cardura E10P glycidyl ester is used as an acid scavenger to reduce the acid value of esters, polyesters resins and polymers. It is usually dosed to these products at the end of their chemical synthesis when they are still at elevated temperature. The unique reaction characteristics and properties make Cardura E10P glycidyl ester attractive for a wide variety of applications, particularly those requiring very low acid values such as synthetic lubricants, high performance polyesters and specialty ester based polymers. Typically, the derived products have an improved hydrolytic stability due to their extremely low acid value. Usually, 4.3 to 30 mg/g Cardura E10P glycidyl ester is used per mg/g KOH of acid value reduction desired. Excess product may be removed by vacuum distillation.

Sales Specifications

Property	Value	Unit	Test Method
Appearance	Clear liquid, free from suspended matter		Visual
Color	35 max.	Pt-Co	ASTMD1209
Epoxy Group Content*	4100 - 4250	mmol/kg	SMS 2026
Water Content	0.1 max	% m/m	ASTMD4672

*Epoxy Equivalent Weight, 235 – 244 g/mol

Typical Properties

Cardura E10P Glycidyl Ester

<https://www.hexion.com/en-US/product/cardura-e10p-glycidyl-ester>

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Property	Value	Unit	Test Method
Boiling Range 5%-90% (w/w) at 101.3 kPa	251 - 278	°C	ASTMD86
Density At t (When 15°C = t = 40°C)	0.9760-0.00065 t	kg/L	ASTMD4052
Flash Point (PMCC)	126	°C	ASTMD93
Molecular Formula	C13H24O3		
Solidification point	below -60	°C	ASTMD97
Solubility in Water at 20°C	0.01	% m/m	
Solubility of water in Cardura E10P at 20°C	0.7	% m/m	
Specific Heat at 25°C	1.733		ASTMD3418
Thermal Conductivity at 25°C	0.142	W/m°C	
Vapor Pressure at 37.8°C	0.9	kPa	ASTMD323
Viscosity at 25°C	7.13	mPa.s	ASTMD-445
Viscosity at 100°C	1.31	mPa.s	ASTMD-445
Viscosity at 125°C	0.94	mPa.s	ASTMD-445
Viscosity at 150°C	0.72	mPa.s	ASTMD-445

Test Methods

ASTM Standards are published by the American Society for Testing and Materials, 100 Barr Harbor Drive, west Conshohocken, PA 19428-2959, USA or can be found under www.astm.org.

ISO standards are published under the supervision of the International Standards Organisation and are available from National Standards Institutes.

SMS methods mentioned are available from Hexion Europe B.V.

Handling Precautions

For more detailed information on all aspects relating to Health, Safety and Handling, reference should be made to the Safety Data Sheet of Cardura E10P glycidyl ester, which is available from your local Hexion representative or distributor. The precautions advised therein should be strictly observed.

Transportation and Storage

Information on transport, storage, suitable materials for tank construction, etc, is available from Hexion, via local representative or distributor.

Cardura should be stored at ambient temperature (min 5 °C - max 50 °C) in conditions such that moisture is excluded, in the original containers kept tightly closed. Under these conditions the shelf life should be three years starting from the manufactured date.

In case free Cardura E10P glycidyl ester level is >1%, the product should be labeled in line with GHS guidelines and in case free Cardura E10P glycidyl ester level > 0.1% it should be mentioned in the SDS.

Contact Information

For contact information about this product, go to www.hexion.com and visit Versatic Derivatives product pages. Here you will have option to choose your region to find a representative in your area.

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