

product data sheet

EPIKOTE™ RESIN 1004

EK 1.2.45

Re-issued September 2002

Description

EPIKOTE Resin 1004 is a solid epoxy resin produced from bisphenol A and epichlorohydrin. It is of medium molecular weight, intermediate between that of EPIKOTE Resin 1002 and EPIKOTE Resin 1007. The resin contains an esterification catalyst.

Applications

EPIKOTE 1004 has two major uses - the manufacture of epoxy esters (used as binders in industrial primers, metal finishes and maintenance paints) and the manufacture of powder coatings. An added esterification catalyst is not normally necessary in the production of epoxy esters using EPIKOTE 1004.

Sales specification

Property	Test method	Unit	Value
Epoxy group content	SMS 2026	mmol/kg	1100 - 1240
(Epoxy molar mass*)		g	806 - 909)
Viscosity at 25°C**	ASTM D445	mPa.s†	13 - 17

* no. of grams of resin containing 1g-equivalent of epoxide. (Weight Per Equivalent, WPE, is an alternative term).

** 40% m/m solution in methyl ethyl ketone, prepared according to SMS 1595

† 1 mPa.s = 1 cpoise

Typical properties

Property	Test method	Unit	Value
Density at 25°C	ASTM D792	kg/L	1.19
Glass transition temp. (T _g)	ASTM D3418	°C	49
Melt viscosity (Weissenberg)			
at 150°C		Pa.s	5
at 175°C		Pa.s	1
Esterifiable group content	SMS 1534	mmol/kg	5560
Hydroxyl group content	SMS 2367	mmol/kg	3160
Molecular weight (approx. Mn)			1480
Flash point (PMCC)	ASTM D93	°C	>200



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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 .

SMS methods mentioned are available from Resolution Europe BV. Information on a number of SMS methods is given in Bulletins in the EK 1.5 series or can be found under www.resins.com.

Storage

EPIKOTE 1004 should be stored in dry conditions away from sources of heat, preferably in the original containers kept tightly closed. Under these conditions and at normal temperatures the storage life should be at least one year.

Handling precautions

Reference must be made to the Safety Data Sheet for this product and to the following Bulletins:

- EK 1.6.1 'Workshop guide to handling EPIKOTE resin formulations',
- EK 1.6.2 'Recommendations for handling EPIKOTE resins, curing agents and auxiliary chemicals',
- EK 1.6.3 'Electrostatic hazards in handling EPIKOTE resins and preparing resin solutions'.

The precautions advised in these publications should be strictly observed.

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