VESTAMIN® PACM

Bis (para-aminocyclohexyl) methane

Preliminary

General description

VESTAMIN PACM is a cycloaliphatic diamine which is manufactured by hydrogenation of methylene dianiline. It is a mixture of different isomers, and contains appoximately 20 % of the trans, trans-PACM. It is a colorless low viscosity liquid with a faint amine odor.

Specification

Property	Value	Unit	Test method
Appearance	clear liquid	-	visual
Color (Hazen)	≤30	mg Pt/l	ASTM D 1209, DIN ISO 6271
Water content	≤0.1	%	Karl-Fischer*
Purity (sum 2-ring amines)	≥99,0	area-%.	gas chromatography
Trans, trans-4,4'-PACM	17 - 24	area-%	gas chromatography

* modified by using a solution of 30% salicylic acid in methanol under cooling

Properties

VESTAMIN PACM can be used for all typical amine reactions, such as reaction with carboxylic acids, phosgene, aldehydes, ketones and epoxies.

VESTAMIN PACM combines the advantages of cycloaliphatic polyamines in epoxy systems: low mix viscosity, moderate reactivity and lower exothermic behaviour as well as the outstanding mechanical properties and excellent chemical resistance. In comparison to other amines, the sensitivity against carbamate formation is reduced, which is an advantage especially for epoxy hardeners.

Application

VESTAMIN PACM is used to produce hardeners for room temperature curing epoxies and as hardener in heat cured epoxies. Typical applications include epoxy curatives for composites and industrial floorings, and the production of specialty polyamides.

General physical data

Property	Value	Unit	Test method
Molecular weight	210.3	g/mol	-
Equivalent weight	105.1	g/val	-
H-active equivalent weight	52.6	g/val	-
Density at 20°C	0,95	g/cm^3	DIN 51 757, ASTM D 2111
Boiling point at 1013 hPa	320	°C	DIN 53 171
Solidification point	15	°C	DIN ISO 3016
Vapor pressure at 20°C	<0.1	hPa	Internal method
Viscosity (dynamic) at 40°C	29,6	mPa*s	DIN 53019
Water solubility at 20°C	5,8	g/l	
Flash point	150	°C	DIN 51 376

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Transport and Packaging

VESTAMIN PACM is supplied in 180 kg non-returnable drums and in bulk.

Storage

VESTAMIN PACM is slightly hygroscopic and tends to form carbamates by reaction with atmospheric CO_2. It should be stored free from moisture and carbon dioxide in glass, stainless steel and carbon steel containers.

VESTAMIN PACM is stable for at least one year when stored in original containers at temperatures below 25°C.

VESTAMIN PACM crystallizes below 15°C. It is necessary to completely liquify the entire contents of the container by warming to a maximum of 60°C and mix thoroughly before use.

Saftey and Handling

Please refer to our Safety Data Sheet.

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