Product information

POLYVEST® EP MV

LIQUID POLYBUTADIENE

GENERAL DESCRIPTION

POLYVEST® EP MV is a stereospecific, low viscous and unsaponifiable liquid polybutadiene with a high content of 1,2-vinyl double bonds having the following composition:

- 1,2-vinyl double bonds approx. 61 %
- 1,4-cis double bonds approx. 37 %
- 1,4-trans double bonds approx. 2 %

SPECIFICATION

Property	Value	Unit	Test Method
Viscosity at 20°C	5.000 - 7.000	mPa s	DIN EN ISO 3219
Acid Number	≤ 0.5	mg KOH/g	DIN EN ISO 2114
Peroxide Number	≤ 10	mval/kg	DGF-method: C-VI-6a (84)

TYPICAL DATA

Property	Value	Unit	Test Method
Mean Molar Mass (M_n)	1.700 – 2.700	g/mol	GPC (polystyrene standard)
Iodine Number	approx. 400	g Iod/100 g	DIN 53 241
Density at 20°C	0,89 – 0,92	g/cm³	DIN ISO 2811-1
Gardner Color	≤ 1		DIN EN ISO 4630
Flash Point	> 245	°C	DIN EN ISO 2719
Ignition Temperature	approx. 360	°C	DIN 51 794
Pour Point	approx. - 27	°C	DIN ISO 3016
Glass Transition Temperature	approx. - 70	°C	DIN EN ISO 11 357-1

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SUPPLY FORM

Viscous liquid

PACKAGING

· steel drums (content 180kg); minimum order quantity 4 drums on pallet
· IBC (content 900kg); minimum order quantity 1 IBC

GENERAL USE AND APPLICATIONS

Due to its high content of 1,2-vinyl double bonds the apolar, hyropobic hydrocarbon resin POLYVEST® EP MV is a highly reactive binder featuring the following characteristics.

· high chemical resistance
· high water resistance
· high electrical insulation properties
· high cold resistance
· good solubility in aliphatic, aromatics and ethers
· good compatibility with hydrocarbon resins, rosin resins and zinc resonates

In this form POLYVEST® EP MV is used in the following areas of application:

· adhesive and sealant compositions
· electrical insulation and potting compounds
· plasticizer for rubber compounds
· polymer printing plates
· polymer modification
· release agents for polyurethane foams

STORAGE

POLYVEST® EP MV is stable with exclusion from air, light and moisture at storage temperatures below 25°C for at least 1 year .

SAFETY AND HANDLING

POLYVEST® EP MV reacts with atmospheric oxygen to form peroxides and cross-linking and is therefore packed and delivered under a blanket of inert gas (nitrogen). During handling care has to be taken to exclude atmospheric oxygen from the product. Opened containers should be blanketed with inert gas again and closed tightly.

FOR THE APPROPRIATE USE OF POLYVEST® EP MV FOR POLYMER MODIFICATIONS THE PEROXIDE NUMBER IS OF IMPORTANT RELEVANCE:

If, as a result of careless handling, the peroxide number rises to values above 10meq/kg difficulties will arise. For example on reaction with maleic anhydride, a significant increase in the viscosity of the adducts may occur and in extreme cases, the adducts will gel.

Definition:
The peroxide number (PON) specifies the milliequivalents of oxygen in 1kg POLYVEST® EP MV detectable under the conditions of below mentioned method. The PON is a measure for the content of peroxidically bound oxygen and allows identifying the extent of autoxidation which has taken place so far.

Procedure:
Method according D.H. Wheeler (see DGF Standard Methods, Section C, Fats)

10g POLYVEST® EP MV are weighed accurately into an Erlenmeyer flask which can be closed with a ground glass stopper and are dissolved in 50ml of a mixture of acetic acid and chloroform (AR 3:2). Then 0.5ml of a fresh prepared saturated potassium iodide solution is added, the flask is closed and to be shaken immediately. Exactly 3 minutes after bringing in the potassium iodide, 30ml of demineralised water is added. The liberated iodine is then titrated with 0.01 normal sodium thiosulphate solution with vigorous shaking, using starch solution as indicator (starch solution: 1% dissolved in demineralised water). A blank test is carried out in the same manner and the consumption of standard solution is to be taken into account appropriately.

Calculation:
According to the amount of thiosulphate solution consumed, its normality and the weight of the test portion, the peroxide number is calculated as follows:

$$\text{Peroxide No.} = \frac{a \times n \times 1{,}000}{E}$$

a = consumption of thiosulphate solution in [ml]
n = normality of the thiosulphate solution
E = weight of test portion in [g]

We are pleased to send our current Material Safety Data Sheet.

POLYVEST® is a registered trademark of Evonik Industrie AG or one of ist subsidiaries.

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