Product Information

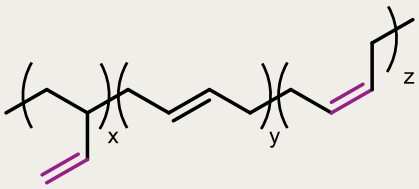
POLYVEST® EP MV

NON-FUNCTIONALIZED LIQUID POLYBUTADIENE

PRODUCT 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 (x):	approx. 61%
1,4-trans (y):	approx. 2%
1,4-cis (z):	approx. 37%



Specification

Property	Unit	Value
Viscosity @ 20°C DIN EN ISO 3219	mPa•s	5,000 – 7,000
Acid number DIN EN ISO 2114	mg KOH/g	≤ 0.5
Peroxide number DGF-method: C-VI-6a (84)	mval/kg	≤ 10

Typical Properties

Property	Unit	Value
Mean molar mass, M_n GPC* (polystyrene standard)	g/mol	1,700 – 2,700
Density @ 20°C DIN ISO 2811-1	g/cm³	0.89 – 0.92
Iodine number DIN 53 241	g I/100 g	approx. 400
Gardner color DIN EN ISO 4630		≤ 2
Flash point DIN EN ISO 2719	°C	> 245
Ignition temperature DIN 51 794	°C	approx. 360
Pour point DIN ISO 3016	°C	approx. -27

*GPC: Gel Permeation Chromatography

TYPICAL APPLICATIONS

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

We are pleased to send guideline formulations.

BENEFITS & ADVANTAGES

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

- high chemical resistance towards acids and bases
- high water resistance
- high electrical insulation properties
- high cold resistance
- good solubility in aliphatics, aromatics and ethers
- good compatibility with hydrocarbon resins, rosin resins and zinc resonates

HANDLING & PROCESSING

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 as much as possible 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).

All operations should be carried out in diffused daylight or artificial light (avoid any direct sunlight). All apparatus must be cleaned and free of any oxidizing or reducing substances.

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 conducted 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:

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

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.

PACKAGING

- Steel drums (content 180 kg); minimum order quantity 4 drums on pallet
- IBC (content 850kg)

STORAGE

POLYVEST® EP MV is stable for at least 2 years with exclusion from air, light and moisture at storage temperatures below 25°C.

SHELF LIFE

2 years

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