Bayer MaterialScience

Product Information

DESMODUR RFE

Polyisocyanate Crosslinking Agent

Description

Desmodur RFE polyisocyanate is a solution of tris(p-isocyanatophenyl) thiophosphate in ethyl acetate.

Application

Desmodur RFE polyisocyanate is a highly effective crosslinker for adhesives based on Desmocoll polyurethane, natural rubber or synthetic rubber. Desmodur RFE polyisocyanate is also useful for improving adhesion to rubber-based materials.

After adding Desmodur RFE polyisocyanate to a polyurethane or rubber-based adhesive, the ready-to-use two-component mixture must be used within its pot life. Pot life is not only governed by the polymer content of the adhesive but also by its other components (resins, antioxidants, plasticizers, solvents, etc.). At the end of the pot life, which can vary from several hours to one working day, the adhesive becomes increasingly difficult to process and its viscosity increases rapidly. Finally, irreversible gelling occurs. The following guide values are suggested for determining the amount of crosslinker to be used. Amounts given are parts by weight (pbw).

To crosslink 100 pbw adhesive: Desmocoll® (hydroxyl polyurethane) based adhesives (containing 20% polyurethane) should be crosslinked with 4 - 7 pbw Desmodur RFE polyisocyanate. Baypren® (polychloroprene rubber) based adhesives (containing approximately 20% rubber content) should be crosslinked with 4 - 7 pbw Desmodur RFE polyisocyanate.

Product Specifications

Property	Value
NCO content of solution (DIN EN ISO 11 909, Annex A)(%)	7.2 ± 0.2

Typical Properties*

Property	Value
Form supplied	approx. 27% in ethyl acetate
Non-volatile content (DIN EN ISO 3251)	approx. 27%
Density at 20°C (DIN 53 217/5)	approx. 1.0 g/cm³
Viscosity at 20°C (DIN 53 015)	approx. 3 mPa•s
Solvent	ethyl acetate
Flash Point (DIN 51 755)	-4°C
Appearance	clear yellow-brown liquid

The color does not influence the quality of the bonds.

Storage

Desmodur RFE polyisocyanate will remain stable for six months after receipt of material by customer, when stored in its sealed original containers at temperatures of 10 - 25°C. If Desmodur RFE polyisocyanate is transported or stored at low temperatures, crystalline deposits may form although they will redissolve at room temperature.

All Desmodur grades are highly sensitive to moisture and react with water to form carbon dioxide and insoluble ureas. The containers must therefore be kept tightly sealed. Exposure to water in any form (e.g. from damp containers or solvents or moist air) must be avoided in order to prevent the formation of carbon dioxide, which may cause a dangerous increase in pressure in the containers. Exposure to air and/or light accelerates yellowing but this has, in general, no effect on the processing properties of the adhesive.

** These items are provided as general information only. They are approximate values and are not part of the product specifications.*

Packaging

Desmodur RFE polyisocyanate is supplied in one-liter metal bottles containing 0.75 kg.

Health and Safety Information

Appropriate literature has been assembled which provides information pertaining to the health and safety concerns that must be observed when handling Desmodur RFE polyisocyanate. For materials mentioned that are not Bayer products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer should be followed. Before working with any product mentioned in this publication, you must read and become familiar with available information concerning its hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms such as material safety data sheets and product labels. For further information contact your Bayer MaterialScience representative or the Product and Regulatory Affairs Department in Pittsburgh, Pa.

Note: The information contained in this bulletin is current as of July 2002. Please contact Bayer MaterialScience to determine whether this publication has been revised.

Bayer MaterialScience LLC

100 Bayer Road • Pittsburgh, PA 15205-9741 • Phone: 1-800-662-2927 • www.BayerMaterialScienceNAFTA.com

Sales Offices

17320 Redhill Avenue, Suite 175, Irvine, CA 92614-5660 • 1-949-833-2351 • Fax: 1-949-752-1306
1000 Route 9 North, Suite 103, Woodbridge, NJ 07095-1200 • 1-732-726-8988 • Fax: 1-732-726-1672
2401 Walton Boulevard, Auburn Hills, MI 48326-1957 • Phone: 1-248-475-7700 • Fax: 1-248-475-7701

7/02