

MACRYNAL[®] SM 2704/75BACX

PRELIMINARY PRODUCT INFORMATION

TYPE

Hydroxy functional acrylic resin designed for crosslinking with polyisocyanates

FORM OF DELIVERY (f.o.d.)

75 % in butyl acetate/xylene (75BACX)

Average hydroxyl content (solid resin)

approx. 1.9 %

TENTATIVE PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219 dynamic viscosity (25 1/s; 23 °C)	[mPa.s]	5000 - 7000
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Colour Scale (Hazen) DIN EN ISO 6271-1 Hazen colour value		<= 100
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Hydroxyl Value (cat.) DIN EN ISO 4629 hydroxyl value (solids)	[mg KOH/g]	55 - 75
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Non-Volatile Matter DIN EN ISO 3251 non-volatile matter (1 h; 125 °C; 2 g; EAC)	[%]	73 - 77
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Not continually determined:

Density (Liquids) DIN EN ISO 2811-2 density approx. (20 °C)	[g/cm ³]	1,03
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Flash Point DIN EN ISO 1523 flash point approx.	[°C]	27
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DEVELOPMENT PRODUCT

This product is serving for trial purposes only. Deviations which might occur during transfer into manufacturing in a commercial scale are possible and do not constitute any material defect.

SPECIAL PROPERTIES

For air-drying as well as forced drying high-solids two pack primers and topcoats for industrial applications. Macrynal SM 2704 leads to fast drying systems with high hardness.

SUGGESTED USES

In combination with aliphatic polyisocyanates, such as Desmodur N 3390, Macrynal SM 2704 is used for air-drying and forced drying high-solids two pack coatings. The principal application area is industrial coatings, in particular primers and topcoats. Such paints display a low content of volatile organic compounds (VOC).

PROCESSING

As a two pack system Macrynal SM 2704 must be combined with polyisocyanates. Dried at room temperature, the coatings reach their optimum properties after 10 to 12 days. If forced dried, 30 min at 80 °C is sufficient for complete curing. The addition of cellulose acetobutyrate speeds up physical drying.

Curing with polyisocyanates

Based on 100 % conversion of reactive groups the following equation can be used to calculate the quantity of polyisocyanate needed for crosslinking 100 parts Macrynal SM 2704 (on solids):

$$\text{polyisocyanate (f.o.d.)} = \frac{42 \times 100 \times \text{OH\% (solid resin)}}{17 \times \text{NCO\% (f.o.d.)}}$$

42 = molecular weight of the NCO group

17 = molecular weight of the OH group

To ensure that optimal properties are obtained it is necessary to have complete crosslinking. Over- or under-crosslinking is possible within certain limits.

Catalysis

Drying can be accelerated by the addition of suitable catalysts, like dibutyl tin dilaurate (0.2 - 0.5 % of a 1 % solution, based on solid resin), in combination with amines like diethyl amino ethanol (approx. 0.2 %, based on solid resin). Potlife is thereby reduced, however.

STORAGE

At temperatures up to 25 °C storage stability packed in original containers amounts to at least 730 days.

DISTINGUISHING FEATURES

Compared to Macrynal SM 2708, formulations based on Macrynal SM 2704 lead to higher film hardness and faster drying.

REMARK:

Data contained in this publication are based on careful investigations (and are intended for information only). Due to scale up of this product there is not yet sufficient experience concerning serial production. We can therefore not exclude, that based on future knowledge product data and other indicated properties in upcoming Technical Data Sheets will be subject to change. We reserve the right to leave the product name unchanged, even if product data or other indicated properties will vary from the present product info. Regardless of the data contained in this publication any user is obliged to carry out tests under his own responsibility as to the suitability of the product for a particular use and to investigate the possible violation of industrial property rights of third parties. Information is therefore not binding and cannot be construed as guaranteeing specific properties of products. We apply our General Sales Conditions.

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