

PRELIMINARY PRODUCT INFORMATION

TYPE

Hydroxy functional acrylic resin designed for crosslinking with polyisocyanates

FORM OF DELIVERY (f.o.d.)

70 % in butyl acetate (70BAC)

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.

Average hydroxyl content (solid resin)

approx. 6,0 %

TENTATIVE PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219

dynamic viscosity (25 1/s; 23 °C)	[mPa.s]	3500 - 5500
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Colour Scale (Hazen) DIN EN ISO 6271-1

Hazen colour value		<= 100
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Hydroxyl Value DIN EN ISO 4629 (VLN 283)

hydroxyl value (solid matter content)	[mg KOH/g]	180 - 220
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Non-Volatile Matter DIN EN ISO 3251

non-volatile matter (1 h; 125 °C; 2 g; ethyl acetate)	[%]	68 - 72
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Not continually determined:

Density (Liquids) DIN EN ISO 2811-2

density approx. (20 °C)	[g/cm ³]	1,04
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Flash Point DIN EN ISO 1523

flash point approx.	[°C]	25
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SPECIAL PROPERTIES

High solid binder for the formulation of fast drying, highly crosslinked two-pack polyurethane coatings providing outstanding properties in terms of chemical and solvent resistance.

SUGGESTED USES

In combination with low viscous, aliphatic polyisocyanates Macrynal SM 2855 provides air-drying and forced drying high-solids two-pack top- and clearcoats characterized by a low content of volatile organic compounds (VOC) together with a very fast hardness increase upon curing. When fully crosslinked these coatings match highest requirements in terms of chemical and solvent resistance as well as low VOC emissions (< 420 g/l) making aircraft coatings, military vehicle coatings, etc. the main areas of application; the use in car repair clearcoats, mainly as combinatorial resin, is also possible.

For use in more cost-efficient industrial topcoats it is recommended to considerably undercrosslink (70 - 80 % theoretical degree of crosslinkage). Such high-solids coatings provide excellent early hardness combined with high end hardness also at lower curing temperatures (e.g. 5 - 10 °C in field applications), as well as good outdoor resistance.

PROCESSING

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 2855 (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

Catalysis

Drying can be accelerated by the addition of suitable catalysts, like dibutyl tin dilaurate (approx. 0,03 % based on solid resin), however, potlife is thereby reduced.

STORAGE

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

DISTINGUISHING FEATURES

In contrast to Macrynal VSM 2155 Macrynal SM 2855 shows excellent compatibility with hardeners based on isocyanurate (HDI-trimers) and allows for formulations providing considerably lower VOC contents.

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.