

MACRYNAL[®] SM 565/70BAC

TYPE

Hydroxy-functional acrylic resin; cross-linkable with polyisocyanates for the production of high solids lacquers

Average hydroxyl content (solid resin)

approx. 4.4 %

FORM OF DELIVERY (f.o.d.)

70 % in butyl acetate (70BAC)

PRODUCT DATA

Determined per batch:

Dynamic Viscosity DIN EN ISO 3219
dynamic viscosity [mPa.s] 2000 - 4200
(25 1/s; 23 °C)

Colour Scale (Hazen) DIN EN ISO 6271-1
Hazen colour value <= 100

Hydroxyl Value (cat.) DIN EN ISO 4629
hydroxyl value [mg KOH/g] 135 - 155
(solids)

Non-Volatile Matter DIN EN ISO 3251
non-volatile matter [%] 68 - 72
(1 h; 125 °C; 2 g; EAC)

Not continually determined:

Density (Liquids) DIN EN ISO 2811-2
density [g/cm³] 1,05
approx.
(20 °C)

Flash Point DIN EN ISO 1523
flash point [°C] 30
approx.

DILUTABILITY

white spirit	»	methyl ethyl ketone	}
toluene	}	methyl amyl ketone	}
xylene	}	methoxypropyl acetate	}
solvent naphtha 150/180	½	ethoxypropyl acetate	}
acetone	}	ethyl acetate	}
methyl isobutyl ketone	}	butyl acetate	}

} = unlimited dilutability

½ = substantial dilutability

¾ = limited dilutability

» = very limited or no dilutability

COMPATIBILITY

% Macrynal SM 565	90	75	50	25	10
% other binder	10	25	50	75	90
Alkyd resins					
Vialkyd AC 290	}	}	}	}	}
Vialkyd AN 755	}	}	}	»	»
Vialkyd AN 950	}	}	}	}	}
Acrylic resins					
Viacryl SC 200, SC 262, SC 370	}	}	}	}	}
Macrynal SM 500, SM 513, SM 515, SM 516	}	}	}	}	}
Macrynal SM 510, SM 510n, SM 548	}	}	}	}	}
Macrynal SM 540	}	»	»	»	}
Macrynal VSM 2800, VSM 2868, VSM 2872	}	}	}	}	}
Polyisocyanates					
Desmodur N 75	}	}	}	}	}
Desmodur L 75, Desmodur N 3300	}	}	}	»	»
Tolonate HDT LV	}	}	}	»	»
Other binders					
Beckopox EP 140, EP 301	}	}	}	}	}
Hostaflex CM 158	}	}	}	}	}
Hostaflex CM 620	»	»	»	»	}
UCAR VAGH solution vinyl resin	}	}	}	}	}
CAB-551-0.2	}	}	}	}	}
CAB-381-0.1	»	»	}	}	}
nitrocellulose 24E	}	}	}	}	}

} = definite compatibility

» = very limited or no compatibility

SPECIAL PROPERTIES AND USE

For air-drying and forced drying high-solids two pack coatings with high gloss, outstanding mechanical properties, excellent chemical resistance and outdoor stability.

SUGGESTED USES

In combination with aliphatic polyisocyanates, pre-eminently with Desmodur N 3390, Macrynal SM 565 is used for air-drying and forced drying high-solids two pack coatings. The principal application area is high quality automotive refinishes and high-performance industrial coatings.

PROCESSING

For two pack coatings Macrynal SM 565 has to be combined with polyisocyanates. At room temperature, coatings based on Macrynal SM 565 reach their optimal properties after 10 - 12 days. By forced drying at 80 °C complete curing is achieved within 30 minutes.

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 565 (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.

For stoichiometric (equivalent) crosslinking (NCO : OH = 1 : 1) 100 parts per weight Macrynal SM 565 (f.o.d.) require 35.4 parts per weight Desmodur N 3300 or 39.4 parts per weight Desmodur N 3390.

Catalysis

Curing of two pack coatings based on Macrynal SM 565 can be accelerated by addition of suitable catalysts. Dibutyl tin dilaurate (DBTL, 0.2 - 0.5 % of a solution, containing 1 % DBTL, counted on solid resin), combined with tertiary amines, e. g. diethylamino ethanol (ca. 0.2 %, counted on solid resin) can be used. However, potlife is shortened by use of catalysts.

Pigmentation

Inert pigments and extenders are suitable for pigmentation. Care should be taken that the material selected is free of water. Suitability should be established by preliminary testing.

Dilution

Suitable diluents are butyl acetate, methyl isobutyl ketone, 2-methoxypropyl acetate, xylene and mixtures of these solvents. Anhydrous solvents as well as solvents free of hydroxyl functional groups should be used in the presence of isocyanates.

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 510n, Macrynal SM 515 and Macrynal SM 516, formulations based on Macrynal SM 565 show higher solids content.

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• Worldwide Contact Info: www.allnex.com •

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