SYNOCURE®

TECHNICAL DATA SHEET

SYNOCURE® 589 S 75

Acrylic polyol

PRODUCT APPLICATION DETAILS

SYNOCURE® 589 S 75 is a high solids hydroxy functional acrylic resin suitable for the formulation of high build low VOC (below 420 g/l at spray viscosity) two-component coatings, both solid colours and clearcoats.
SYNOCURE® 589 S 75 is recommended for high performance protective and marine finishes, A.C.E., transport and vehicle refinishing.

SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (125°C)	71.5 - 74.5 %	ISO 3251
Viscosity (25°C)	5000 - 7000 mPa.s	ISO 12058-1
Color	2 max Gardner	ISO 4630
Acid value	2 - 7 mg KOH/g	ISO 2114

OTHER CHARACTERISTICS[1]

	CHARACTERISTICS	METHODS
Solvent	2:1 Butyl acetate : Aromatic hydrocarbon, boiling range 160°C - 180°C	-
Flash point	37 °C	ISO 3679
Density	1.06 g/ml	ISO 2811
Hydroxyl content	4.9 %	-
Hydroxyl equivalent weight	350	-

[1] The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

MARKETS

Coatings & Inks

- Industrial Coating
  - Automotive - OEM
  - Automotive - Refinish
  - General Industry
  - Protective And Marine Coating

PERFORMANCE BENEFITS

- Good flexibility
- Good impact resistance
- Excellent durability

SYNOCURE® 589 S 75

FORMULATION GUIDELINES

RECOMMENDATIONS FOR USE

SYNOCURE® 589 S 75 should be mixed with the selected polyisocyanate just prior to application. Stoichiometric mixing ratios are recommended to obtain optimum performance.
The reaction ratio is calculated from the respective equivalent weight or hydroxyl and isocyanate content of the reactants. The relationship is:
Hydroxyl Equivalent Weight = (17*100) / %OH
Isocyanate Equivalent Weight = (42*100) / %NCO
Using Tolonate™ HDT-LV [1], the recommended ratios would be:
- on solid resins: SYNOCURE® 589 S 75/Tolonate™ HDT-LV [1] = 350/183
- as supplied: SYNOCURE® 589 S 75/Tolonate™ HDT-LV [1] = 467/183

Alternative ratios may be suitable for some applications, but should be evaluated by the coating formulator beforehand.Conventional polyisocyanates such as Desmodur® N 75 series [2] and Tolonate™ HDB 75 MX [1] can be used successfully but for the highest solids content at application a low viscosity type such as Tolonate™ HDT-LV [1] is recommended.
SYNOCURE® 589 S 75 reacted with Tolonate™ HDT-LV [1] in stoichiometric proportions has a usable pot life at spraying viscosity in excess of a full working day at normal room temperature. Although the use of catalysts or higher temperatures will reduce this storage period, paints will still remain usable for several hours.
To increase the initial rate of cure of SYNOCURE® 589 S 75 based paints, at both ambient temperature and under low bake conditions, the use of tin catalyst in the form of dibutyl tin dilaurate is strongly recommended. The level used will depend on specific requirements, but the recommended minimum level would be 0.0015% tin calculated on total solid resin plus isocyanate.

SOLUBILITY

The solvents chosen for paints and lacquers based on SYNOCURE® 589 S 75 should be free of water and should not contain groups that react with isocyanates. SYNOCURE® 589 S 75 is completely soluble in esters, ketones and aromatic hydrocarbons and is insoluble in aliphatic hydrocarbons.

OTHER ADDITIVES

To optimise the performance of SYNOCURE® 589 S 75, when used in a clear varnish formulation, the use of Tinuvin® 1130 [3] and Tinuvin® 292 [3] in a 1:1 ratio is recommended.

Notes: [1] VENCOREX® Chemicals, [2] Bayer MaterialScience, [3] BASF

PRODUCT SAFETY

Please refer to the corresponding Safety Data Sheet.

STORAGE AND HANDLING

SYNOCURE® 589 S 75 should be stored indoors in the original, unopened and undamaged container, in a dry place at a temperature not exceeding 30°C. Exposure to direct sunlight should be avoided.
In the above mentioned storage conditions the shelf life of the resin will be from the shipping date.
Shelf Life (Months): 12

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