

TECHNICAL DATA SHEET

SYNOCURE® 851 S 60

Acrylic polyol

PRODUCT APPLICATION DETAILS

SYNOCURE® 851 S 60 is a hydroxy functional acrylic designed to crosslink at room temperature or under low-bake conditions with aliphatic polyisocyanates.

SYNOCURE® 851 S 60 is particularly recommended for use in vehicle refinishing, and for all high performance industrial applications where high quality is required.

SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (125°C)	58 - 62 %	ISO 3251
Viscosity (25°C)	2000 - 3000 mPa.s	ISO 12058-1
Color	70 max Hazen	ISO 6271
Acid value	10 max mg KOH/g	ISO 2114

OTHER CHARACTERISTICS¹

	CHARACTERISTICS	METHODS
Solvent	2:1 Xylene : Butyl acetate	-
Flash point	24 °C	ISO 3679
Density	1.02 g/ml	ISO 2811
Hydroxyl content	4.5 %	-
Hydroxyl equivalent weight	380	-

¹The 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

- Excellent weathering performance
- Excellent application properties
- Excellent chemical resistance

SYNOCURE® 851 S 60

FORMULATION GUIDELINES

RECOMMENDATIONS FOR USE

SYNOCURE® 851 S 60 should be mixed with the selected polyisocyanate just prior to application. The mixing ratio is not critical although it is preferable to use stoichiometric ratios 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 = $(17 \times 100) / \%OH$

Isocyanate Equivalent Weight = $(42 \times 100) / \%NCO$

Using Tolonate™ HDB 75 MX ⁽¹⁾, the recommended ratios would be:

- on solid resins: SYNOCURE® 851 S 60/Tolonate™ HDB 75 MX ⁽¹⁾ = 380/191

- as supplied: SYNOCURE® 851 S 60/Tolonate™ HDB 75 MX ⁽¹⁾ = 633/255

At normal temperatures, the surface drying time of paints and varnishes based upon this combination is typically 20 minutes, with hard dry in 6 hours.

To increase the initial rate of cure of SYNOCURE® 851 S 60 based paints and varnishes, at both ambient temperatures and under low bake conditions, the use of tin or zinc catalysts in the form of dibutyl tin dilaurate or zinc octoate is recommended. The levels will depend on the specific requirements but typical metal contents calculated on total solid resin would be 0.001% tin or 0.02% zinc.

The pot life of coatings based upon SYNOCURE® 851 S 60 / Tolonate™ HDB 75 MX ⁽¹⁾ in the recommended proportions gives a full working days use. Lacquers prepared at 23 seconds flow cup 4 at 20°C will double in viscosity after 30 hours. With a catalyst level of 0.001% tin on total solid resin this will be reduced to 10 hours. The catalyst used is dibutyl tin dilaurate.

SOLUBILITY

The solvents chosen for paints and laquers based on SYNOCURE® 851 S 60 should be free from water and not contain groups that react with isocyanates. Esters and ketones are true solvents and are recommended for use in combination with aromatic hydrocarbon diluents such as xylene.

OTHER ADDITIVES

To optimise the performance of SYNOCURE® 851 S 60, when used in a clear varnish formulation, we recommend the use of Tinuvin® 900 ⁽²⁾ and Tinuvin® 292 ⁽²⁾ in a 2:1 ratio.

Notes: ⁽¹⁾ VENCOREX® Chemicals, ⁽²⁾ BASF

PRODUCT SAFETY

Please refer to the corresponding Safety Data Sheet.

STORAGE AND HANDLING

SYNOCURE® 851 S 60 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

Headquarter: Arkema France
51, Esplanade du Général de Gaulle
92800 Puteaux – France
T +33 (0)1 49 00 80 80

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