SYNOCURE®

TECHNICAL DATA SHEET

SYNOCURE® 804X-70

Acrylic polyol

PRODUCT APPLICATION DETAILS

SYNOCURE® 804X-70 is a hydroxyl functional acrylic designed to crosslink at room temperature or under low-bake conditions with aliphatic polyisocyanate. It is particularly recommended for use in OEM's, vehicle refinishing, A.C.E. and transport coatings and heavy duty coatings.

SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (at 125°C, 1gm, 1hr)	68 - 72 %	ISO 3251
Viscosity (100gm Resin+30gm BA, FCB-4) (at 30°C)	48 - 58 s	
Color	1 max Gardner	ISO 4630
Acid value	5 max mg KOH/g	ISO 2114

OTHER CHARACTERISTICS[1]

	CHARACTERISTICS	METHODS
Volatile	Xylene	
Flash point	24 °C	ISO 3679
Density (at 20°C)	1.02 g/ml	ISO 2811
Hydroxyl content	3 %	
Hydroxyl equivalent weight	570	

Acid value and/or Hydroxyl value quoted relative to solid resin
[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 - Refinish
  - General Industry

PERFORMANCE BENEFITS

- Excellent mechanical properties
- Excellent gloss and adhesion
- Excellent flow and levelling
- Excellent DOI

SYNOCURE® 804X-70

FORMULATION GUIDELINES

RECOMMENDATIONS FOR USE

SYNOCURE® 804X-70 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 x 100/ % OH
Isocyanate equivalent weight = 42 x 100/% NCO
Using Desmodur N-75[1], the recommended ratios would be:
-on solid resin: SYNOCURE® 804X-70/Desmodur N-75 [1] = 570/191
-as supplied: SYNOCURE® 804X-70/Desmodur N-75 [1] = 815/255
To increase the initial rate of cure of SYNOCURE® 804X-70 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® 804X-70 / Desmodur N 75 [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® 804X-70 should be free from water and not contain groups that react with isocyanates.

OTHER ADDITIVES

To optimize the performance of SYNOCURE® 804X-70, 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] Bayer, [2] Ciba

PRODUCT SAFETY

Please refer to the corresponding Safety Data Sheet.

STORAGE AND HANDLING

SYNOCURE® 804X-70 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 date of manufacturing.
Shelf Life (Months): 12

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