

# SYNOCURE® 9237S-70 IN

ARKEMA COATING RESINS

## Product Application details

SYNOCURE® 9237S-70 IN is a hydroxy functional acrylic designed to crosslink at room temperature or under low-bake conditions with aliphatic polyisocyanates. SYNOCURE® 9237S-70 IN is particularly recommended for use in high quality compliant industrial coatings, vehicle refinishing applications, heavy duty and protective coatings such as structural steelwork.

## Performance Benefits

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

## Polymer Type

- Solvent borne Acrylic

## Sales Specifications

Solid Content at 125°C, % (ISO 3251, 1gm, 1h, 125°C)	69 - 71
Viscosity in Poise at 25°C, Brookfield Viscometer	20 - 30
Colour, Gardner scale (ISO 4830)	1 Max
Acid value, mg KOH/g (ASTM 3682)	10 Max

## Other Characteristics<sup>1</sup>

Volatile	Solvesso 100, Xylene
Flash point, °C (ISO 3679)	24
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	0.99
Hydroxyl Content, %	3.1
Hydroxyl Equivalent weight	550

Note: Acid value and/or Hydroxyl content quoted relative to solid resin

<sup>1</sup> The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

## RECOMMENDATIONS FOR USE

SYNOCURE® 9237S-70 IN 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:

$$\text{Hydroxyl equivalent weight} = \frac{17 \times 100}{\% \text{ OH}}$$

$$\text{Isocyanate equivalent weight} = \frac{42 \times 100}{\% \text{ NCO}}$$

## Formulation Guidelines

Using Desmodur N-75(1), the recommended ratios would be:

	on solid resin	as supplied
SYNOCURE 9237S-70 IN	550	786
Desmodur N- 75 (1)	182	245

At normal temperatures, the surface drying time of paints and varnishes based upon this combination is typically 60 minutes, with hard dry in 8 hours.

To increase the initial rate of cure of SYNOCURE<sup>®</sup> 9237S-70 IN 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<sup>®</sup> 9237S-70 IN/ 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 24 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<sup>®</sup> 9237S-70 IN 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 optimize the performance of SYNOCURE<sup>®</sup> 9237S-70 IN, when used in a clear varnish formulation, we recommend the use of Tinuvin<sup>®</sup> 900 (2) and Tinuvin<sup>®</sup> 292 (2) in a 2:1 ratio.

*Notes: (1) Bayer, (2) Ciba*

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## **Product**

### **Safety**

Please refer to the corresponding Safety Data Sheet.

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### **Storage & Handling**

SYNOCURE 9237S-70 IN 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 condition the shelf life of the resin will be 12 months from the date of manufacturing.

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**Arkema Chemicals India Pvt Ltd**  
**D43 (1), Trans Thane Creek, MIDC Industrial Area,**  
**Shiravane, Nerul, Navi Mumbai 400706, India**  
**Telephone: +91 22 6737 7100**  
**Fax: +91 22 2768 7998**