

SYNOCURE® 869 X 52

GENERAL INDUSTRY

ARKEMA COATING RESINS

Product Application details

SYNOCURE® 869 X 52 is a hydroxy functional acrylic resin designed to crosslink at room temperature with polyisocyanates to produce coatings with outstanding colour retention and good chemical resistance.

SYNOCURE® 869 X 52 is suitable for use in wood lacquers and high performance coatings for metal.

Performance Benefits

- Exceptionally fast drying
- Very long pot life
- Low isocyanate requirement
- Good hardening rates
- Good UV resistance

Polymer Type

- Solventborne Acrylic

Sales Specifications

Solid Content at 125°C, % (ISO 3251)	50 - 53
Viscosity at 25°C, mPa.s (ISO 12058-1)	2500 - 5000
Colour, Pt/Co Scale (DIN EN 1557)	70 max
Acid value, mg KOH/g (ISO 2114)	3 max

Other Characteristics¹

Volatile	Xylene
Flash point, °C (ISO 3679)	24
Density / Specific Gravity at 20°C, g/ml (ISO 2811)	1.02
Hydroxyl Content, %	1.55
Hydroxyl Equivalent weight	1100

Note: 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

RECOMMENDATIONS FOR USE

SYNOCURE® 869 X 52 should be mixed just prior to application with the selected polyisocyanate. 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:

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

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

Using Desmodur® N 75 series (1) or Tolonate™ HDB 75 MX (2), the recommended ratios would be:

	on solid resin	as supplied
SYNOCURE® 869 X 52	1100	2140
Desmodur® N 75 series (1) or Tolonate™ HDB 75 MX (2)	191	255

Formulation Guidelines

SYNOCURE®
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At normal temperatures, the surface drying time of paints based on this combination is typically 15 min.

SYNOCURE® 869 X 52 is designed for use with both aliphatic polyisocyanates and aromatic polyisocyanates.

The use of such an aromatic adduct will result in higher overall reactivity but with some sacrifice of pot life, colour retention and durability. The resin is also compatible with the aliphatic/aromatic copolymer Desmodur® HL series (1).

SYNOCURE® 869 X 52 reacted with Desmodur® N 75 series (1) or Tolonate™ HDB 75 MX (2) in stoichiometric proportions has a usable pot life at spraying viscosity in excess of two days at normal room temperature. The use of catalysts or higher temperatures will reduce this storage period.

To increase the initial rate of cure of SYNOCURE® 869 X 52 paints, 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 used will depend on specific requirements, but typical metal contents calculated on total solid resin would be 0.001% tin or 0.0015% zinc.

SOLUBILITY

Solvents chosen for paints and lacquers based on SYNOCURE® 869 X 52 should be free of water and should not contain groups which react with isocyanate. Esters and ketones are true solvents for this type of system and are usually used with aromatic hydrocarbon diluents such as xylene.

Notes: (1) Bayer MaterialScience, (2) Vencorex Chemicals

Product Safety

Please refer to the corresponding Safety Data Sheet.

Storage & Handling

SYNOCURE® 869 X 52 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 12 months from the shipping date

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See SDS for Health & Safety Considerations.

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For any use of Arkema's product in Medical Device applications, please contact Arkema's sales network.

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