CRAY VALLEY

# COATING RESINS

## TECHNICAL DATA — SYNOCURE 851S

### SALES SPECIFICATION

| | |
|---|---|
| Non-volatile content, % @ 150°C | 58-62 |
| Viscosity in CPS at 25°C (AFNOR XPT51213) | 2000-3000 |
| Colour, Gardner scale (ISO 4630) | ≤ 1 |
| Acid value, mg KOH/g (ISO 3682) | 3 - 8 |

### OTHER PROPERTIES

| | |
|---|---|
| Volatile | Xylene / Butyl Acetate ( 2:1) |
| Non-volatile content, % @ 150°C | 60 |
| Flash point, °C (ISO 3679) | 24 |
| Density at 20°C (ISO 2811) | 1.02 |
| Hydroxyl content, % | 4.47 |
| Hydroxyl equivalent weight | 380 |

Note - Hydroxyl content quoted relative to solid resin

### PRODUCT INFORMATION

**SYNOCURE 851** is a hydroxy lfunctional acrylic resin developed for use in two component systems when cured with polyisocyanate.
**SYNOCURE 851** is recommended for the formulations which are crosslink at room temperature with polyisocyanate. and is particularly recommended where economy in use is not a major factor.
Characteristics of SYNOCURE 851 based coatings include:

- High gloss
- Excellent Hardness
- Excellent Weathering Properties
- Excellent Chemical and Application properties

### RECOMMENDATIONS FOR USE:

**REACTION RATIOS:** SYNOCURE 851 should be mixed with the selected polyisocyanate just prior to application. Stoichiometric mixing ratios are recommended to obtain optimum performance. Alternative ratios may be suitable for some applications, but should be evaluated by the coating formulator beforehand.
The reaction ratio is calculated from the respective equivalent weight or hydroxyl and isocyanate content of the reactants. The relationship is:

Equivalent weights (EqW): Hydroxyl EqW $= \frac{17 \times 100}{\%\ OH}$ Isocyanate EqW $= \frac{42 \times 100}{\%\ NCO}$

Conventional polyisocyanates such as Desmodur N75 [1] and Tolonate HDB75MX [2] can be used successfully

| | on solid resin | as supplied |
|---|---|---|
| SYNOCURE 851 | 380 | 633 |
| Tolonate HDB 75 MX[2] | 191 | 255 |
| N- 75 | 191 | 255 |

**SOLVENTS:** The solvents chosen for paints and lacquers based on SYNOCURE 851 should be free of water and should not contain groups that react with isocyanates.

**POT LIFE:** SYNOCURE 851 reacted with Tolonate HDB-75MX [2] in stoichiometric proportions has a usable pot life at spraying viscosity in excess of a full working day at normal room temperature. The use of catalysts or higher temperatures will reduce this storage period, although paints will still remain usable for several hours.

**CATALYSTS:** To increase the initial rate of cure of SYNOCURE 851 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 0.001% tin calculated on total solid resin plus isocyanate.

**UV ABSORBERS:** To optimise the performance of SYNOCURE 851, when used in a clear varnish formulation, the use of Tinuvin 1130 [3] and Tinuvin 292 [3] in a 2:: 1 ratio is recommended.

**SYNOCURE 851** should only be used in applications consistent with the above recommendations. Proposals to use the resin in other ways should be discussed with Cray Valley before any action is taken.

Notes: [1] Bayer [2] Rhodia. [3] Ciba Chemicals.




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