Nissin Chemical Industry Co., Ltd.

# VINYBLAN 278 TECHNICAL DATA SHEET

## Product description

VINYBLAN 278 Vinyl chloride/Acrylic Ester Copolymer (Emulsion).

### Features

- VINYBLAN 278 is a Vinyl Chloride-Acrylic copolymer emulsion, with a low Tg (°C) and good flexibility compared with other products in the VINYBLAN series.

### Applications

- Adds excellent chromogenic properties to paint and ink formulas, as well as coated surfaces.
- Often used as a binder for inks.
- Provides excellent adhesion to a substrate and colorant dispersion in the absorbing layer when used for industrial ink-jet printing.
- Adds flame resistance when applied to textiles and non-woven fabric.
- Adds flame resistance to painting materials.
- Transparent film formations are possible with VINYBLAN 278.

### VINYBLAN 278 General Properties

| Attributes | Results |
|---|---|
| Appearance | Milky white dispersion |
| Solid Content (%) | 43 |
| Viscosity (mPa·s ) | 200 |
| PH | 8.5 |
| Average Particle Size (nm) | 180 |
| Tg (°C) | 33 |
| MFT (°C) | 46 |
| Specific Gravity | 1.1 |
| Acid Value (KOHmg/g) | 5 |
| Ionicity | Anion |
| Machine Stability (*1) | Good |
| Low Temperature Stability (*2) | Good |

(*1) By the Marlon Stability tester.
(*2) No condensation was observed under 5°C.

### Packaging

- 18kg can; 200kg Drum; 1,000kg Container

| Film Properties | VINYBLAN 278 |
|---|---|
| Tensile Strength (MPa) | 28(*3) |
| Elongation (%) | 50 (*3) |
| Oxygen Index Number (LOI value) | 24.3(*4) |
| Non-combustibility (MVSS Standard) Coating Volume 50g [mm/min] | 140 (*5) |
| Non-combustibility (MVSS Standard) Coating Volume 100g [mm/min] | Self-extinguishing (*5) |
| Transparency | Transparent (*6) |
| Heat Resistance [150°C] | Good (*7) |
| Heat Resistance [200°C] | Good (*7) |
| Pencil Hardness | B (8) |

**Evaluation Method**

*3: Prepares a film of VINYBLAN with a thickness of Ca. 0.3mm
Measures Tensile Strength under the tension of 500mm/min and Elongation of the film when the film is torn down.
*4: By LOI Standard (JIS K7201)
*5: By MVSS-302 standard
Backing: 100% polyester woven fabric
Costing volume: 50g or 100g/$m^2$ (dry)
Treatment: Dipping Drying: 130°C x 5 min.
*6: Applies VINYBLAN on glass plate with a #12 Bar Coater, drying condition: 100°C then observes the sample.
*7: Applies VINYBLAN on a piece of paper with a #12 Bar Coater, drying condition: 150°C and 200°C, then observes if the film turns yellow after 30 minutes.
*8: JIS K5600-5-4 · ISO15184

### Storage Conditions

- Store in cool, dry location and avoid direct sunlight. The desirable temperature range for storage is between 5°C and 30°C.

### Shelf Life

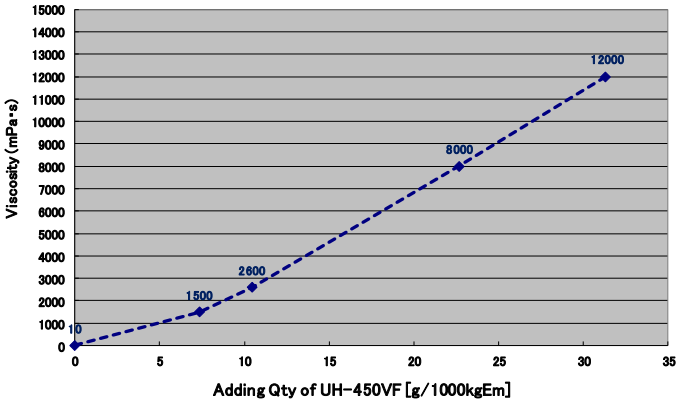
- When this product is properly stored in the original unopened container at cool temperature, ranging between 5°C and 30°C, and in a dark location, we certify that every characteristic of this product meets the specifications for 6 months after the shipping date from our factory in Japan.

# VINYBLAN 278

**Processing Information**

- VINYBLAN can be applied in various methods, including spray, gravure, foaming, dipping, and knife coating.
- Recommended drying temperature is 100°C or higher.
- When higher viscosity is needed, thickening agent (urethane associative type or alkali type) can be used.

Please see the below table for an example of Urethane associative type thickening agent. (Adekanol UH-450VF)




- To achieve better film formation, we recommend adding glycol type high-boiling point solvents.
- VINYBLAN can be diluted by water.
- VINYBLAN can be mixed with various anionic emulsions.
- Mixing Vinyblan with alcohol, such as Methanol or IPA, can cause gelation. (Except for 700 series)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## ⚠ Caution

- Follow the precautions in the material safety data sheet and technical references.
- VINYBLAN is for industrial use only.
- The data in this document does not include all specifications. Purchasers must conduct tests of their own before putting the product to practical use to verify its compliance, with their intentions for its employment.
  We give no guarantee that the uses presented in this document do not come in conflict with any patents.
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