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Shanghai Songjiang ThreeBond Chemicals Co., Ltd

Technical Data

ThreeBond 3171C

UV-curing Resin

1. Product description

ThreeBond 3171C is a one-component non-solvent low-viscosity UV-curing resin. This resin can cure quickly under irradiation of ultraviolet or visible light at a wavelength of 200 to 420 nm.

It has good adhesion to glass, various plastics and metals, especially excellent adhesion to PVC, ABS, PC and PS.

Also, it conforms to ISO10993 (biological safety assessment).

Hereinafter, ThreeBond is abbreviated to TB.

2. Features

- 1) Excellent adhesion to plastics, such as PVC, ABS, PC and PS.
- 2) Curable in a few seconds with radiation of visible or ultraviolet light.
- 3) Good transparency and toughness after curing.
- 4) Conforming to ISO10993 (biological safety assessment).

3. Applications

- 1) Bonding of disposable medical devices.
- 2) Bonding of glass, various plastics and metals.

4. Properties

Test item	Unit	Result	Test method	Remarks
Appearance	-	Transparent	3TS-2100-001	Visual inspection
Viscosity	mPa·s	210	3TS-2F00-005	1°R34,H,10rpm
Specific gravity	-	1.02	3TS-2500-002	-

5. Characteristics of cured resin

Test item	Unit	Result	Test method	Remarks
Hardness	Shore	D70	3TS-2B00-004	500mJ/cm ² ×1
Cure shrinkage	%	7.23	3TS-2600-001	500mJ/cm ² ×1
Lap shear strength	MPa	5.08 (material failure)	3TS-4100-013	PC/PVC 200mJ/cm ² ×1
		5.30 (material failure)		PC/PVC 300mJ/cm ² ×1
		4.09 (material failure)		ABS/PVC 200mJ/cm ² ×1
		4.46 (material failure)		ABS/PVC 300mJ/cm ² ×1
		1.83		PS/PVC 200mJ/cm ² ×1
		1.96		PS/PVC 300mJ/cm ² ×1

* Curing conditions: High-pressure mercury lamp, Dominant wavelength: 365nm,
Irradiation distance: 15cm

6. Instructions for use

- 1) The curing speed varies depending on the type of light source and irradiation distance.
Check the curing speed prior to use.
- 2) In principle, curing will not occur in portions where the UV light does not reach.
- 3) Because some gas is generated during application and curing with UV light, use forced air ventilation in the working area and UV light irradiation area. Also, if necessary, wear appropriate protective clothing, such as a mask, gloves (impervious) and goggles. Use the product in a place equipped with a local exhaust system.
- 4) Do not inhale or ingest. Harmful to health. Do not inhale or ingest. If ingested, get immediate medical attention.
- 5) Harmful to the health. Do not directly touch nor inhale vapor. If it adheres to the skin, it may cause inflammation. If it adheres to the skin, immediately wipe it away with cloth or paper, and wash the skin with soap and water. If it gets in the eyes, wash them with running water for about 15minutes, and get medical attention.
- 6) If any abnormality is found in the body, stop using it and get medical attention. People who have allergies or susceptible skin should avoid handling it.
- 7) Use of this product may cause substrate degradation. The effects of the adhesive on the substrates must be confirmed by the operator in advance. Refrain from using the adhesive if any detrimental effects are observed.
- 8) If the product is transferred to another container, confirm whether or not there is an adverse effect on the curability prior to use.
Do not return the product left unused to the container.
- 9) This product solidifies on metallic parts. Do not use metallic nozzle or other metallic parts.

- 10) After use, store with the cap tightly fitted to prevent deterioration and contamination.
- 11) Keep out of reach of children.
- 12) It may generate toxic gas. Entrust disposal to a waste disposal company.
- 13) Due to the properties of the resin, slight discoloration may occur.
- 14) For hazard and toxicity information, see the Safety Data Sheet (SDS).

7. Storage

To prevent deterioration and contamination, fit the cap tightly, and store it indoors in a dark dry place at -5 to 25°C away from sunlight, fire and heat sources.

8. Disposal

When disposing of this product, entrust it to an industrial waste disposal company with expertise.

Do not burn the product. It may generate toxic gas when burnt.

9. Cautions

For industrial use only

(Do not use for household purposes.)

This product is developed for general industrial use. Before using this product, the user must accept the following terms:

- The technical data given herein are not guaranteed values, but examples of experimental values obtained by our specified test methods. We do not guarantee that the uses described herein do not conflict with any intellectual property right.
- Before using this product, confirm the appropriateness and safety of the use for the application in question, and bear all responsibilities and risks involved in the use. Never embed or inject into bodies nor use as a medical implant that may be left in the body.
- We are not liable for personal injury or property damage caused by improper handling of this product. If the properties or usage of the product to be used are unclear, never use it.
- For detailed safety information of the product, see the Safety Data Sheet (SDS). To obtain the SDS, contact our sales office or customer service.
- Information in this document is subject to change at our own discretion.

10. Registered trademark

ThreeBond is a trademark or a registered trademark of ThreeBond Co., Ltd.