



## MD<sup>®</sup> 1-CN001 Face Mask Adhesive

### APPLICATIONS

- Bonding Respiratory Face Masks

### FEATURES

- Low Viscosity
- Aggressive Bonds to Plasticized Substrates

### RECOMMENDED SUBSTRATES

- CAP
- PC
- PU
- PVC
- PVC Alloy

### BIOCOMPATIBILITY

- ISO 10993-5 Cytotoxicity

Dymax MD<sup>®</sup> adhesives are solvent free and cure only upon exposure to UV or visible light. Their ability to cure in seconds enables faster processing, greater output, and lower assembly costs. When cured with Dymax spot, focused beam, or flood lamps, they deliver optimum speed and performance for medical device assembly while enhancing worker safety. This product is in full compliance with RoHS directives 2015/863/EU.

#### TYPICAL UNCURED PROPERTIES \*

Property	Value	Test Method
Solvent Content	No Nonreactive Solvents	N/A
Composition	Urethane Oligomer/(Meth)Acrylate Monomer Blends	N/A
Appearance	Colorless/Light Amber Liquid	N/A
Flash Point	>93°C (200°F)	N/A
Solubility	Alcohol/Chlorinated Solvents	N/A
Viscosity, cP	45 (nominal)	N/A
Shelf Life at Recommended Conditions from Date of Manufacture	12 months	N/A

#### CURED MECHANICAL PROPERTIES \*

Property	Value	Test Method
Durometer Hardness	D80	ASTM D2240
Tensile at Break, MPa [psi]	48 [7,000]	ASTM D638
Modulus of Elasticity, MPa [psi]	2,760 [400,000]	ASTM D638
Elongation at Break, %	6%	ASTM D638

#### OTHER CURED PROPERTIES \*

Property	Value	Test Method
Thermal Range (brittle/degrades)	-54° to 177°C (-65° to +350°F)	DSTM D200
Water Absorption, % (25°C, 24 h)	90	ASTM D570
Boiling Water Absorption, % (2 h)	25	ASTM D570
Linear Shrinkage, %	2.0	DSTM 614†

#### ADHESION

Substrate	Recommendation
CAP cellulose acetate phthalate	✓
PC polycarbonate	✓
PU polyurethane	✓
PVC poly(vinyl chloride)	✓
PVC Alloy poly(vinyl chloride) alloy	✓

✓ Recommended      ○ Limited Applications  
 † Requires Surface Treatment (e.g. plasma, corona treatment, etc.)

\* Not Specifications

N/A Not Applicable

† DSTM Refers to Dymax Standard Test Method

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Technical Data Collected PRIOR TO 2000 Rev.02/10/2023





## CURING GUIDELINES

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm<sup>2</sup> [10 psi] between glass slides. Actual cure time typically is 3-to-5 times fixture time.

Dymax Curing System (Intensity)	Fixture Time or Belt Speed <sup>A</sup>
5000-EC (200 mW/cm <sup>2</sup> ) <sup>B</sup>	1 s
UVC-6 Conveyor (4,000 mW/cm <sup>2</sup> ) <sup>C</sup>	1 s

<sup>A</sup> Fixture times/belt speeds are typical for curing thin films through 100% UV and light-transmitting substrates. Light-obstructing substrates may require longer cure times.

<sup>B</sup> Intensity was measured over the UVA range (320-395 nm) using a Dymax ACCU-CAL™ 50 Radiometer.

<sup>C</sup> Equipped with Fusion "D" Lamp.

Full cure is best determined empirically by curing at different times and intensities, and measuring the corresponding change in cured properties such as tackiness, adhesion, hardness, etc. Full cure is defined as the point at which more light exposure no longer improves cured properties.

Dymax recommends that customers employ a safety factor by curing longer and/or at higher intensities than required for full cure. Although Dymax Application Engineering can provide technical support and assist with process development, each customer must ultimately determine and qualify the appropriate curing parameters required for their unique application.

## DISPENSING SUPPORT

The Dymax Application Engineering team is ready to discuss your application requirements to provide the most appropriate dispensing and/or spraying solution. Visit our current dispensing equipment portfolio [here](#) or consult our [global contact](#) phone numbers and online chat feature (available in North America only) during normal business hours for instant support.

## STORAGE AND SHELF LIFE

Store the material in a cool, dark place when not in use. Do not expose to light. This product may polymerize upon prolonged exposure to ambient and artificial light. Keep covered when not in use. This material shelf life noted on page 1 of this document, when stored between 10°C (50°F) and 35°C (90°F) in the original, unopened container.

## SAFETY

Wear impervious gloves and/or barrier cream. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. Do not wear absorbent gloves. Remove adhesive from skin with soap and water. Never use solvents to remove adhesive from skin or eyes.

## CAUTION

For industrial use only. Avoid breathing vapors. Avoid contact with eyes and clothing. In case of contact, immediately flush with water for at least 15 minutes; for eyes, get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, vomiting should be induced at once and a physician called. For specific information, refer to the Material Safety Data Sheet before use.

## BIOCOMPATIBILITY & STERILIZATION

This product has not been submitted for USP Class VI biocompatibility certification. This PDS will be updated whenever such certification is completed. In all cases, it is the user's responsibility to determine and validate the suitability of these adhesives in the intended medical device.

SME Technical Paper #AS91-397, 1991 advises that "All adhesives are toxic in their raw or uncured state. Complete cure...is required to retain Class VI certification status." It is recommended that biocompatibility testing of the completed device be done following sterilization to eliminate the effects of minor process variations and contamination during assembly. The sterilization methods of choice are gamma irradiation and ethylene oxide. Sterilization by autoclaving may be limited to certain applications. Laboratory data indicates that gamma irradiation cures Dymax adhesives.



## GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the Safety Data Sheet before use.

The data provided in this document are based on historical testing that Dymax performed under laboratory conditions as they existed at that time and are for informational purposes only. The data are neither specifications nor guarantees of future performance in a particular application. Dymax does not guarantee that this product's properties are suitable for the user's intended purpose.

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