NANOMYTE® SR-100EC is a three-part transparent, micron-thick, liquid coating that provides both scratch resistance and easy-to-clean properties to a variety of surfaces. The surface treatment is mechanically robust, is highly repellent to water and oils, and enhances lubricity. It can be applied to plastics (such as polycarbonate, PMMA, PET, polyurethane, & epoxy) as well as metals (such as stainless steel, aluminum, titanium, brass and chrome). SR-100EC is thermally cured and ideally suited for optical lenses, touch screen protectors, stainless steel appliances, hand rails, and faucets.

PHYSICAL CHARACTERISTICS

Product Form:	Three-part liquid coating solutions
Color:	Part A – translucent; Part B – colorless; Part C – colorless
Viscosity (20 °C):	5 – 15 cP (mixed)

TECHNICAL DATA

Contact Angle on Fully Cured Film:	105 – 115° (water); 60-70° (hexadecane)
Abrasion Resistance (ASTM D1044):	Δ Haze < 2% (polycarbonate substrate, CS-10F wheels, 500g load, 500 cycles)
UV Resistance:	No visual damage after 200 hours of dry QUV test 1.5 W/m^2 @ 340 nm, 55°C
Mix Ratio (by weight):	10:6:4 (A:B:C)
Curing Temperature:	85°C (minimum recommended)
Cured Film Thickness:	3 – 10 µm (min / max recommended)
Coverage:	400 – 600 ft^2/L (theoretical @ 3µm DFT)

SURFACE PREPARATION / PRIMER APPLICATION

Ensure surfaces to be coated are clean and dry – the surfaces should be water-break free before coating application. The coating can be applied with or without the use of a primer depending on the substrate. NEI supplies a primer product, NANOMYTE® SR-Primer, which works well with a range of plastics. The primer may be applied by dipping, flowing, spinning, rolling or spraying.

For spray application of the primer, an HVLP spray gun with a nozzle size of < 1.0 mm is recommended, and the pressure should be set at approximately 25 to 30 psi. The primed parts should then be dried at 70°C for 10 min before application of NANOMYTE® SR-100EC.

COATING APPLICATION

It is recommended that coating application be performed in a clean environment to minimize surface defects. To make the coating solution, in a dust-free container combine Part A, Part B, and Part C by weight using the following ratio: 10 to 6 to 4 (A:B:C). Mix well by stirring briefly (avoid vigorous stirring to minimize foam formation). The coating may be applied immediately after mixing by dipping, flowing, spinning, rolling or spraying.

For spray application of the coating, an HVLP spray gun with a nozzle size of < 1.0 mm is recommended, and the pressure should be set to approximately 25 to 30 psi.

For best coating performance, use the coating solution within 24 hours after mixing, or store the mixed solution in a freezer for later use. If stored in freezer, warm the solution up to room temperature before application.

CURING CONDITIONS

NANOMYTE® SR-100EC is thermally cured at an elevated temperature. Recommended curing conditions:

- **PMMA:** 4 hours at 85°C
- **Polycarbonate:** 1 hour at 120°C
- **Other:** 30 minutes at 150°C (for substrates that can withstand high temperatures)

Shorter cure times / reduced temperatures may also be used depending on surface properties and performance requirements; test samples for desired performance when deviating from recommendations.

CLEAN UP

Clean tools and flush equipment thoroughly with acetone before product dries. Once coating is dry, the tools will not clean with acetone or any other solvent.

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STORAGE & HANDLING

Precautions for Safe Handling

Appropriate personal protective equipment should be used at all times. Avoid contact with eyes, skin and clothing. Provide good ventilation or extraction and avoid prolonged or repeated breathing of vapor. Keep away from heat, sparks, flames and other sources of ignition. Wash hands thoroughly after handling.

Conditions for Safe Storage

For best coating performance, store Part C in a freezer or a refrigerator. Keep the containers of Part A and Part B tightly sealed and store in a cool and dry place. Avoid storage above 30 °C / 86 °F and contamination with incompatible materials. Keep away from heat, sparks, flames and other sources of ignition. Residual vapors might explode on ignition.

Refer to SDS for complete information on the safe handling of this product.

ADDITIONAL INFORMATION

NEI Corporation believes that the information in this technical data sheet is an accurate description of the typical use of the product. However, NEI disclaims any liability for incidental or consequential damages, which may result from the use of their products that are beyond its control. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy, and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual right.

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