



# Technical Data Sheet

## CrystalCoat™ UV MS-HR853

### UV-Cure Spin Coating

#### DESCRIPTION

CrystalCoat™ UV MS-HR853 is a UV curable, hard coat for ophthalmic lenses or other plastic parts.

#### FEATURES

- Solvent-Based Formulation
- Abrasion and Chemical resistant
- Designed for ADC (CR-39®, RAV 7®), Trivex®, Mid-Index Acrylic, 1.60 (MR-8™), 1.67 (MR-7™, MR-10™), and 1.74 (MR-174™)
- Compatible with Anti-Reflective coatings
- Non-Tintable
- Spin Coating Application

#### STORAGE AND USE

UV MS-HR853 is flammable and should be stored away from potential ignition sources. Store UV MS-HR853 in closed, properly labeled containers. Do not store in colorless glass containers or other containers that transmit UV light. Do not pad containers or pressurized vessels using nitrogen. Use of nitrogen may cause premature gelling. Avoid sunlight and other sources of UV light. Store at ambient temperatures less than 75° F/24°C. It is recommended to use UV MS-HR853 within 12 months from date of manufacture.

#### SOLUTION PROPERTIES

PROPERTY	TYPICAL VALUES
% Solids	51 - 55
Viscosity @ 25°C	6 - 8 cP

#### CURED COATING PROPERTIES

PROPERTY	TYPICAL VALUES
Coating Thickness	2.4 - 3.0 µm
Steel Wool Hardness	4 (0 - 10 scale)
Bayer Ratio	~2.0
Adhesion (30 Min Boiling Water)	100%

#### RECOMMENDED OPERATING GUIDELINES

PROPERTY	TYPICAL VALUES
Wash*	Soap and water. No etching required.
Application Spin Speed**	800 rpm for 5 seconds
Spin Out Speed	2000 rpm for 20 seconds + 300 rpm for 5 seconds
Cure	2.0 - 2.5 joules/cm <sup>2</sup> with medium pressure mercury arc lamp
Coating Filtration	1.2 µm absolute

\* For adhesion to molded surfaces, CR scrub process required.

\*\* Spin speeds and times can vary depending on equipment utilized. UV-cure energy of lamp systems may vary. These parameters are meant as a guideline.



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## CONTACT INFORMATION

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CR-39® and Trivex® are registered trademarks of PPG.

MR-Series: MR-8™, MR-7™, MR-10™ & MR-174™ are trademarks, RAV 7® is a registered trademark of Mitsui Chemicals, Inc.

Teflon® is a registered trademark of The Chemours Company FC, LLC.

## EQUIPMENT PREPARATION

**Equipment Cleaning:** Coating equipment should be cleaned prior to use of UV MS-HR853 in order to avoid any possible contamination problems. The cleaning process should include multiple solvent rinses (utilizing a solvent compatible with the material in prior use with the equipment) followed by a thorough rinse with acetone or 1-Methoxy-2-propanol (PM). Acetone or PM should also be used for cleaning equipment after the use of UV MS-HR853. It is important to be sure all solvent has been completely removed/dried from coating bowl, tubing, and pump before adding coating.

**Equipment Materials:** All equipment surfaces that are exposed to UV MS-HR853 should be constructed of stainless steel, polypropylene or Teflon®. Other materials should be tested for compatibility with UV MS-HR853 prior to use. Materials made with polyvinyl chloride (PVC) should not be used under any circumstances.

## APPLICATION ENVIRONMENT

UV MS-HR853 should be applied in a clean temperature and humidity controlled environment. Recommended conditions for application are 20 – 25°C (68 - 77°F) and 25 – 50% relative humidity. Coating machine should be equipped with hepa air filter. It is recommended to place coating machine in a clean environment and in a separate area from potential contamination sources.

## LENS CLEANING

Lenses to be coated with UV MS-HR853 should first be cleaned isopropanol, then cleaned by inline cleaning system in the coating machine being used. Lenses should be clean and dry before application of UV MS-HR853.

## HEALTH & SAFETY INFORMATION

Before using this product, read and understand the Safety Data Sheet, SDS, which provides information on health, physical, and environmental hazards, handling precautions and first aid recommendations. For a copy of an SDS, contact a sales or customer service representative.

## WARRANTY & LIABILITY LIMITATIONS

Information contained herein is accurate to the best of our knowledge. The coating solution properties and cured coating properties listed herein represent typical values for UV MS-HR853 and are not meant as specifications. SDC Technologies, Inc. insists that users conduct their own tests for applicability and fitness for any purpose. Statements concerning use of products or formulations described herein shall not be construed as a warranty or license to infringe any patent or trademark, and no liability for infringement arising out of such use is assumed. Please refer to SDC Technologies Standard Terms and Conditions or to your Purchase Agreement with SDC for the warranty coverage of SDC's product.

## PRODUCT SHIPPING & AVAILABILITY

Typical lead-time for shipment of UV MS-HR853 is four (4) weeks from confirmation of a purchase order. SDC provides several shipping options. Please contact an SDC representative to determine which option best fits your needs. All orders are shipped ex works/F.O.B. Additional shipment charges including customs clearance and fees (if applicable) are the responsibility of the customer.

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