

## SilForce™ UV9380C Release Coating

### SilForce\* UV9380C Release Coating

#### Description

Silforce UV9380C photoinitiator is a photoactive iodonium salt solution intended for use with Momentive Performance Materials SilForce epoxy silicone release coatings (UV9300, UV9315, UV9400, UV9430, UV9440E, and UV9500). UV9380c is blended with the epoxysilicone polymers prior to use. The photocatalyzed mixture is then cured by ultraviolet radiation. Inerting of the cure chamber is not required. The photoinitiator is a sensitized solution of an iodonium catalyst in a proprietary reactive diluent package. UV9380C is compatible with cationic photocurable organic systems including cycloaliphatic epoxy resins, glycidylethers, and vinyl ethers, and may be used to catalyze UV cure coatings of such materials.

Generally, one to three parts by weight of UV9380C photoinitiator are used with 100 parts of the epoxy silicone polymers depending on the substrate to be coated.

#### Key Features and Benefits

- Fast UV cure
- Compatible with epoxysilicones
- UV cure not inhibited by oxygen
- Efficient cure at low concentrations (1-3%)
- Low toxicity
- Low viscosity, easy to handle
- UV absorption is well-matched with medium pressure mercury vapor lamp emission

## Typical Physical Properties

Property	Value
Specific gravity 25C	1.06
Lbs/Gal 25C	9.1
Antimony	6.5 - 7.0 wt %
Wavelength, lambda max, (nm)	255, 385
Viscosity, 25C	100 cstk

## Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

## Product Safety, Handling and Storage

The warranty period is 12 months from date of shipment from Momentive Performance Materials if stored in the original unopened container at 25°C (77°F). (Refrigeration is recommended.) As with any reactive chemical system, care should be taken to avoid contamination from other chemicals, especially strong acids, and basic materials such as amines, phosphorous compounds, tin soaps, alcohols, and titanium chelates. The cationic cure will also be slowed if contamination with water occurs.

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

## Processing Recommendations

### USE AND BATH PREPARATION

UV9380c photoinitiator functions by the UV initiated release of a strong acid. This acid catalyzes the ring opening polymerization of the epoxy groups in the epoxy silicone polymers.

2 to 3 parts of Silforce UV9380c photoinitiator are blended with 100 parts of the epoxy silicone polymers prior to coating these materials. Cure occurs when this mixture is exposed to deep wavelength UV light. This cure will occur efficiently in an air atmosphere and inerting is not needed. In general, the best cure results are obtained on plastic substrates with these products by the addition of 2% by weight of UV9380c photoinitiator. On paper substrates, including glassines, 2-4 % by weight of UV9380c photoinitiator is recommended for complete cure. The precise level of UV9380c required is a function of desired line speed, substrate, and lamp configuration. Pre-production screening of any substrate intended for coating with SilForce UV cure cationic release systems is highly recommended. Thorough mixing of UV9380c photoinitiator with UV polymers is critical for proper performance of the coating. Baths must be mixed with a mechanical stirrer for 10 to 15 minutes. If they are left undisturbed for long periods of time, they must be thoroughly re-mixed.

## **CATALYZED BATH LIFE**

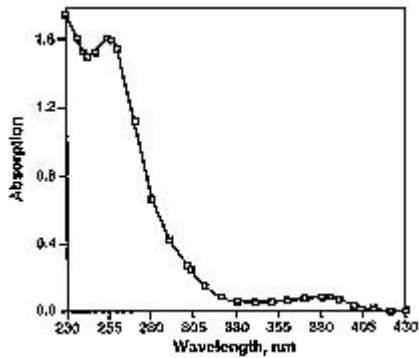
For catalyzed bath life information, please refer to the appropriate epoxy silicone polymer data sheet. Catalyzed baths should be stored in the dark at or below room temperature if intended for future use. Prolonged exposure to heat above 30°C, and contamination with strong acids or bases can render UV9380c photoinitiator inactive either by thermal/acidic breakdown or neutralization of the photogenerated acid at the time of cure.

## **UV LAMPS**

Momentive Performance Materials epoxy silicone release coating based formulations are most efficiently photocured by deep UV radiation, particularly < 300 nm wavelength. Either arc- or microwave- fired, medium pressure mercury vapor lamps are recommended. Fusion Systems' H or H+ sources have been found to be particularly well suited for the photocure of our epoxy silicone polymers. \*

**(FIGURE 1)**

**UV9380C UV Absorption Spectrun 0004 N in Methylene chloride**



**STARTING FORMULATIONS**

UV9380c photoinitiator is designed for use with UV9XXX\*\* epoxy silicone release coatings. Typical formulations are as follows:

Formulation	Plastic Substrates Parts by Wt	Paper Substrates Parts by Wt
UV9XXX	100.0	100.0
UV9380C	1.0 - 2.0	2.0 - 3.0

\*\* UV9XXX: UV9300, UV9315, UV9400, UV9425, UV9430 and UV9500.

**Limitations**

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

**Availability**

	1 Pint	1 Gal	5 Gal
Net Wt: kg (lbs)	0.45 (1.0)	3.64 (8.00)	18.2 (40.0)

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