

SilForce™ UV9480C Photoinitiator

Product Description

SilForce UV9480C photoinitiator is a photoactive iodonium cationic polymerization initiator solution used to cure SilForce UV epoxy silicone release coatings through UV initiated release of a strong acid, which then initiates the ring opening polymerization of the epoxy groups in the epoxy silicone polymers.

SilForce UV9480C photoinitiator is broadly compatible with cationic photocurable organic systems, including cycloaliphatic epoxy resins, glycidylethers and vinyl ethers.

Key Features and Typical Benefits

- Fast UV cure
- Compatibility with epoxy silicones
- UV cure not inhibited by oxygen
- Efficient cure at low concentrations (1-3%)
- Low toxicity
- Low viscosity, ease of handling
- UV absorption that is well-matched with medium pressure mercury vapor lamp emission
- Heavy metal free formulation

Typical Physical Properties

Property	Value
Appearance	Yellow, transparent
Specific Gravity 25 °C	0.98
Viscosity at 25 °C (77 °F), cps	17
Wavelength, Lambda Max (nm)	237,384

Typical properties are average data and are not to be used as or to develop specifications.

General Considerations for Use

Generally, 1-3 parts by weight of SilForce UV9480C photoinitiator are used with 100 parts of the epoxy silicone polymers (see Starting Formulations on next page). However, as requirements may vary depending upon line speed, lamp configuration, substrate to be coated, and other factors, preliminary tests should be conducted to determine optimal catalyst concentration.

Use and Bath Preparation

SilForce UV9480C photoinitiator is blended with 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 therefore inerting is not needed. Thorough mixing of SilForce UV9480C 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.

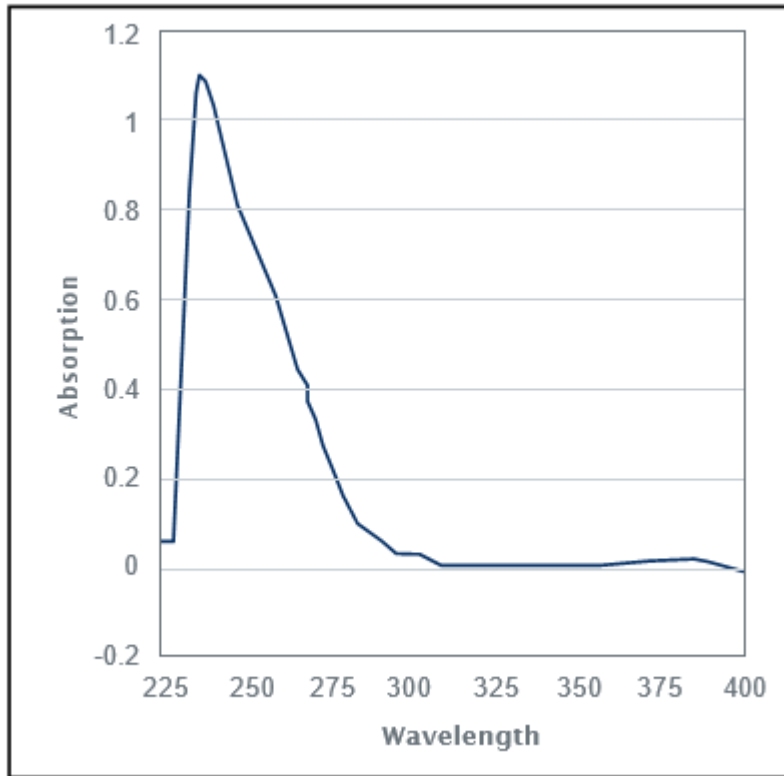
Catalyzed Bath Life

For fully formulated bath life information, please refer to the appropriate epoxy silicone polymer data sheet. Baths containing SilForce UV9480C 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 SilForce UV9480C 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. Heraeus Microwave UV system's H or H+ sources have been found to be particularly effective for the photocure of our epoxy silicone polymers.

Figure 1
SilForce UV9480C UV Absorption
 Peak efficiency dependent on UV irradiation equipment



Test data. Actual results may vary.

Starting Formulations(1)

Silforce UV9480C photoinitiator is used to UV cure epoxy silicone release coatings, such as Silforce UV9XXX** release coatings. Typical starting formulations are as follows:

Formulation	Plastic Substrates Parts by Wt	Paper Substrates Parts by Wt
SilForce UV9xxx	100.0	100.0
SilForce UV9480C	1.0 ~ 2.0	2.0 ~ 3.0 ,

**Epoxy silicone release coatings: UV9300, UV9315, UV9500, TPR6501S, etc.

(1) Product formulations are included as illustrative examples only. Momentive makes no representation or warranty of any kind with regard to any such formulations, including, without limitation, concerning the efficacy or safety of any product manufactured using such formulations.

Current Availability

180g Brown glass bottle

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

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 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.

Limitations

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

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