

## 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.

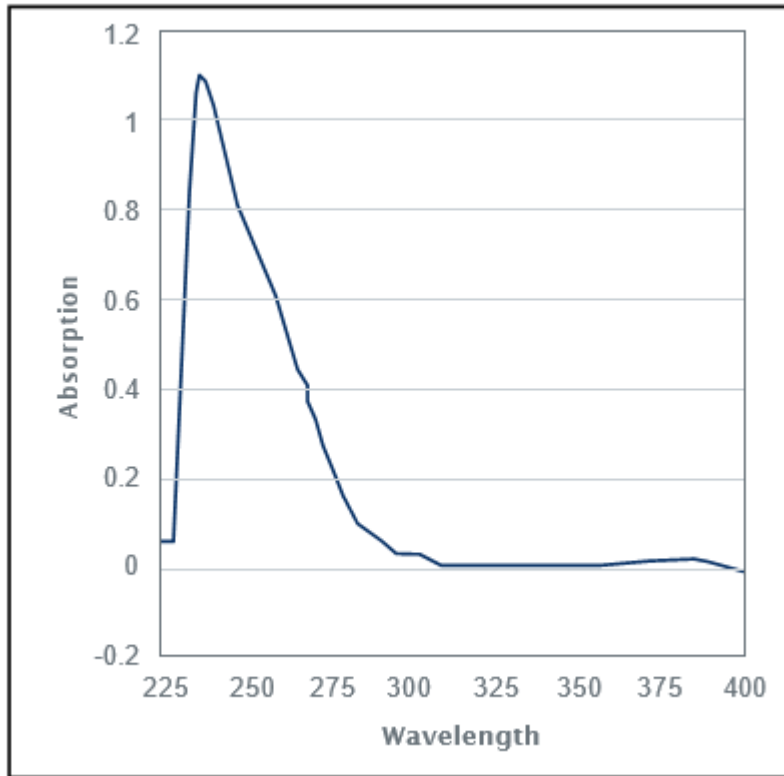
### **Catalyzed Bath Life**

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](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.

### **Limitations**

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

### **Contact Information**

Email

[commercial.services@momentive.com](mailto:commercial.services@momentive.com)

### **Telephone**

**Americas**

**Latin America**

**EMEAI- Europe, Middle  
East, Africa & India**

**ASIA PACIFIC**

|                         |                  |  |                  |
|-------------------------|------------------|--|------------------|
| +1 800 295 2392         | <b>Brazil</b>    | <b>Europe</b>  | <b>China</b>     |
| Toll free*              | +55 11 4534 9650 | +390510924300  | 800 820 0202     |
| +704 805 6946           | Direct Number    | Direct number  | Toll free        |
| Direct Number           |                  |  | +86 21 3860 4892 |
|                         |                  |  | Direct number    |
| *All American countries | <b>Mexico</b>    | <b>India, Middle East &amp; Africa</b>               | <b>Japan</b>     |
|                         | +52 55 2169 7670 | + 91 44 71212207                                     | +81 3 5544 3111  |
|                         | Direct Number    | Direct number*                                       | Direct number    |
|                         |                  | <b>*All Middle Eastern countries, Africa, India,</b> | <b>Korea</b>     |
|                         |                  |  | +82 2 6201 4600  |

For literature and technical assistance, visit our website at: [www.momentive.com](http://www.momentive.com)

**DISCLAIMER:**

**THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC. AND ITS SUBSIDIARIES AND AFFILIATES (COLLECTIVELY “SUPPLIER”), ARE SOLD SUBJECT TO SUPPLIER’S STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIER MAKES NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING ITS PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. EXCEPT AS PROVIDED IN SUPPLIER’S STANDARD CONDITIONS OF SALE, SUPPLIER AND ITS REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN.** Each user bears full responsibility for making its own determination as to the suitability of Supplier’s materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Supplier’s products, materials, or services will be safe and suitable for use under

end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Supplier's standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Supplier. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Supplier covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

\*SilForce™ is a trademark of Momentive Performance Materials Inc.

The use of the "™" symbol designates registered or unregistered trademarks of Momentive Performance Materials Inc. or its affiliated companies. Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.