Technical Data Sheet

SilForce™ UV9388C Release Coating

SilForce* UV9388C Release Coating

Product Description

SilForce UV9388C release coating (iodonium PF6 salt powder – 100% active material) UV photo initiator intended for use in non-silicone applications such as cationic UV cure inks. Silforce UV9388C is easy to use with most cationic curing organic coatings based on cycloaliphatic epoxy, vinyl ether, glycidyl ether, oxetane, epoxidized olefin and epoxidized unsaturated natural oil functional materials. Depending on the color of the ink/coating, a sensitizer can be added into the reactive formulation.
Generally, two to ten parts by weight of SilForce UV9388C photo-initiator is used in the coating or ink formulation, depending on the application and the substrate used.
Upon UV-irradiation, the SilForce UV9388C photo-initiator releases a strong acid which catalyses the polymerization. Due to the structure of the active ingredient in SilForce UV9388C, there is no release of benzene during the polymerization process.

Key Features and Typical Benefits

- High reactivity – efficient photo response
- Antimony (Sb) free photo-initiator
- Non yellowing properties at aging in white inks
- Excellent solubility in epoxy resins, polymers and inks
- Efficient UV cure at two to ten parts by weight
- Superior shelf life stability
- No release of benzene during UV curing process
- Suitable for all colours (ink, varnishes, coatings...)
- 100% active powder material
- Cationic chemistry – no Nitrogen inerting needed (not sensitive to Oxygen)

General Considerations for Use

SilForce UV9388C photo-initiator functions by the UV initiated release of a strong acid, which catalyzes the polymerization / curing of the coating or ink. Generally, 2 to 10 parts by weight of SilForce UV9388C photo-initiator are normally required in the final formulation of the coating or ink. Photo sensitizers, like Thioxanthones (e.g. isopropylthioxanthone) or anthrancenes can be added to the mixture to increase photo response of the SilForce UV9388C photo-initiator. The precise optimum level of SilForce UV9388C is a function of the desired line speed, colour of the ink and coat weight, substrate and UV lamp configuration. When used in ink applications, the optimal amount of sensitizer will to a large extent be dependent on the colour of this resin.
Cure occurs when a catalyzed coating or ink mixture is exposed to focused deep UV light under ambient conditions.This cure will occur efficiently in an open-air atmosphere and inerting with nitrogen (N2) is not required. Thorough mixing of the SilForce UV9388C photo-initiator into the mixture is critical for proper performance of the coating.

Catalyzed Bath Life

Catalyzed bath life is largely dependent on the other constituents of the final coating or ink. Prolonged exposure to heat above 30°C, and contamination with strong acids or bases can render SilForce UV9388C photo-initiator inactive either by thermal/acidic breakdown or neutralization of the photo-generated acid at the time of cure.

Use and Bath Preparation

UV Lamps

Cationic curing coatings and inks containing SilForce UV9388C photo-initiator are efficiently photocured by deep UV radiation, particularly < 300 nm wavelength. Either ARC or Microwave fired, medium pressure mercury (Hg) vapour lamps are recommended. Fusion systems' H or H+ sources have been found to be well suited for the photo-cure of epoxy resin mixes containing SilForce UV9388C photo-initiator.

Typical Physical Properties

Typical product data values should not be used as specifications. Assistance and specifications are available at the technical service department of Momentive Performance Materials.

Property	SilForce UV 9388C
Appearance	White crystalline powder
Purity, %	>98

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

Containers

0.5 kg sample
25 kg pail

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.

Contact Information
Email
commercial.services@momentive.com

Telephone

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

For literature and technical assistance, visit our website at: www.momentive.com

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