



## Uvipak VCI

UV Curing Screen Ink for PETG, PVC, Pre-treated Polyethylene, Polypropylene and PET

Uvipak VCI is a UV curing ink designed for printing on to PETG, PVC, pre-treated polyethylene, polypropylene and PET bottles and containers.

### The Seritone Matching System

The Seritone Matching System enables printers to readily match special colours. The system consists of 9 base colours, each of which has been selected for its cleanliness of tone and suitability for intermixing.

VCI 010 Tinting Black and VCI 021 White/Tinting White are pigmented to achieve the ideal tinting and tint reducing power, and are therefore suitable for colour matching purposes. Using the Seritone base colours, Black, White & Extender Base, almost any colour can be reproduced.

### Prediction Database

When used with a compatible spectrophotometer and software, this database can be used to predict colour match formulae for simulations of many colours. The wide range of substrates and print conditions commonly used in container decoration will inevitably mean that some formulae may need adjustment. The use of the correction facility incorporated in the spectrophotometer software can greatly simplify this process.

### Product Resistance

Uvipak VCI inks generally have better chemical and solvent resistance than conventional inks. They will resist attack by most products likely to be packed in a printed container. Resistance of prints immediately after cure is excellent, for best results it is advisable to allow six hours after curing to achieve optimum resistance.

Uvipak inks are not recommended for use in applications where outdoor exposure is a possibility.

The following table shows the general resistance properties of Uvipak inks through a No.180 monofilament screen onto pre-treated polyethylene, fully cured with one medium pressure mercury vapour lamp of 120w/cm. The resistance properties were assessed after 24 hours immersion in each product.

	Excellent	Good
Aftershave Lotions	●	
Alcohol	●	
Water		●
Antifreeze	●	
Battery Acid		●
Bleach		●
Brake Fluid		●
Cosmetics	●	
Detergents	●	
Household Cleaners	●	
Motor Oil	●	
Petrol		●
Skin Care Products	●	
Solvents		●

### Impact Resistance

Impact resistance of some PVC and PETG containers can deteriorate after printing. This condition is related to time and may take up to twelve weeks to develop. Uvipak VCI inks are formulated to minimise this condition, but it is essential to establish that inks and containers are fully compatible by conducting suitable impact or drop tests.

### Main Characteristics

#### Finish

High gloss.

#### Curing

Hourly output of approximately 4000 containers of 60mm diameter may be expected from machines with suitable medium pressure mercury vapour or electrodeless lamps. Cure speed is dependent on film thickness, colour and opacity, coupled with lamp type and condition.

#### Thinning

Warming the ink to a maximum of 38-40 °C will reduce viscosity, or ZEI18 can be used for minor adjustments.

#### Wash-up

Xtend Screen Wash Universal. Do not wash up with any UV thinners.

#### Mesh

140 to 180 monofilament.

#### Stencil Type

All solvent resistant stencils are suitable.

Recommend:

Dirasol 916, Dirasol SuperCoat or 18 micron capillary film.

#### Coverage

80-90 m<sup>2</sup>/kg through 180.31(T)

#### Applications

PETG, PVC, pre-treated polyethylene, polypropylene and PET bottles and containers.

#### Colour Range

9 of the Seritone System, plus Black, Tinting Black, White/Tinting White & Extra Opaque White. Extender Base may be used to reduce colour strength.

#### Properties

Fast cure. Unlimited screen stability. Low odour. Excellent physical and chemical resistance.

#### Co-use with other inks

May be over printed, in line, with Uvipak NG.

#### Overprinting

Uvipak VCI has been designed to be overprintable with itself for up to 72 hours after the first colour down. However, overprinting should ideally be conducted in-line on multicolour machines as any delay in overprinting may result in poor intercoat adhesion. Uvipak VCI can also be overprinted with Uvipak NG. Resistance of such prints will reflect those of Uvipak NG.

#### Post Curing

The chemical reaction initiated by UV radiation will continue for some time after the dried prints emerge from the dryer. It is therefore important that the adhesion of the first colour down, and all subsequent overprint colours, is assessed at regular intervals.

#### Pre-treatment

To achieve adhesion to polyethylene, polypropylene and PET and for optimal product resistance, consistent levels of surface pre-treatment must be achieved. A surface free energy of 52-58 dynes/cm is recommended and is best achieved with the use of a gas/air flame.

#### IMPORTANT:

Stir well before every use. Always test application fully before beginning any production run as supposedly similar plastics can vary between different manufacturers, and even between different batches. Certain plastics may be impregnated with lubricants or anti-static additives, which, like migrating plasticisers, may impair adhesion even a considerable period after printing.

## Standard Colours

Uvipak VCI

VCI 001		Black
VCI 010		Tinting Black
VCI 021		White/Tinting White
VCI 023		Extra Opaque White
VCI 064	(s)	Seritone Yellow (Green Shade)
VCI 043	(s)	Mid Chrome/Seritone Yellow (Red Shade)
VCI 114	(s)	Seritone Orange
VCI 121	(s)	Vermilion/Seritone Red (Yellow Shade)
VCI 164	(s)	Seritone Red (Blue Shade)
VCI 165	(s)	Seritone Magenta
VCI 127	(s)	Deep Violet/Seritone Violet
VCI 230	(s)	Seritone Blue
VCI 325	(s)	Seritone Green
VCI 381		Extender Base

(s) = Seritone Base Colours

Available in 1kg and 5kg containers

## Reducers and Additives

ZEI 818 Thinner

ZEI 813 Fast Thinner

ZE I808 Gel Additive

Available in 5 and 1ltr containers

ZEI 828 Special UV Cure Additive

ZEI 824 Flashcure Additive

Available in 1ltr containers

## Special Matches

Colours can be supplied against prints, wet ink samples or to PANTONE reference, 'British Standard', 'HKS', 'Munsell' or 'Seritone' numbers. A sample of the substrate to be printed, with the number and type of mesh to be used, as well as other relevant data, should be attached to orders. The product resistance of special matches may be very important and it is necessary that full details be supplied of the process to be followed and the product to be packed in the container. Minimum quantity 1kg

## Storage

Containers should be tightly closed immediately after use. At the end of long printing runs, surplus ink from the screen should be disposed of. Uvipak VCI inks are outside the Petroleum (Flammable Liquids) Order 1971 and Liquefied gases Regulations 1972. Uvipak should not be stored in direct sunlight or near warm pipes and should be kept away from peroxides. In the interest of maximum shelf-life, storage temperatures should be between 10 °C and 25 °C. When stored in a cool environment the inks are expected to have a shelf-life of approximately 12 months from the date of manufacture.

## Fujifilm Sericol India Pvt Limited:

- has certification to the International Environmental Standard, ISO 14001
- Is committed to minimising the risk to users of our products, and also to minimising the impact of our activities on the environment, from formulation through to production and supply.
- Research & development team, work to an in house Health, Safety and Environmental policy, termed 'Design for Health, Safety and Environment', with the aim of proactively developing products with the least impact on health, safety and the environment.
- Regularly review and monitor our impacts and activities, setting objectives and targets as part of a continual improvement process.
- Is committed to reducing waste through better use of raw materials, energy, water, re-use and recycling.

## Safety and Handling

Uvipak VCI Inks:

- Has a flashpoint greater than 55°C and is therefore not classified as a "dangerous substance" under the Dangerous Substances and Explosive Atmospheres Regulations (DSEAR).
- is not routinely tested, but is formulated to comply with the EN71-3 1995 Toy Safety Standard.

Comprehensive information on the safety and handling of Uvipak VCI screen inks and additives are given in the appropriate Sericol Material Safety Data Sheets, available upon request.

## Environmental Information

Uvipak VCI inks:

- is formulated free from aromatic hydrocarbons
- is free of any volatile solvent and can therefore be considered to have less impact on the environment, when compared with solvent-based products.

The information and recommendations contained in this Product Information sheet, as well as technical advice otherwise given by representatives of our Company, whether verbally or in writing, are based on present knowledge and believed to be accurate. However, no guarantee regarding their accuracy is given as we cannot cover or anticipate every possible application of our products and because manufacturing methods, printing stocks and other materials vary. For the same reason our products are sold without warranty and on condition that users shall make their own tests to satisfy themselves that they will meet fully their particular requirements. Our policy of continuous product improvement might make some of the information contained in this Product Information sheet out of date and users are requested to ensure that they follow current recommendations

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FUJIFILM SERICOL INDIA PVT LTD,  
10/11, B.U. Bhandari Industrial estate, Sanaswadi, Tal. Shirur, Dist. Pune 412 208,  
Tel.: 02137 392500/537, Fax: 02137 392555  
E-mail: sericolindia.customercare@fujifilmsericol.com  
Customer Care Tel: +91 (0) 2137 392552  
Technical Help line: +91 (0) 2137 392523/524/525, E-mail: sericolindia.technicallab@fujifilmsericol.com  
Website: www.sericolindia.com



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Mumbai  
Plot no 3/116,  
Marol Co-op. Indl. Estate Ltd.  
Opp Marol Bhavan, Makwana Road, Marol  
Andheri (East), Mumbai-400059  
Tel.: +91-22-28592563 / 64  
Fax: +91-22-28509718  
E-mail: sericol.mumbai@fujifilmsericol.com

Ludhiana  
Upper India Steel Road, Focal Point,  
Ludhiana-141010.  
Tel: + 91- 161- 505 1817, 508 4245  
Fax: + 91 - 161 - 508 4245  
E-mail: vikram.malhotra@fujifilmsericol.com

Chennai  
13, T.T.K.Road, Royapettah,  
Chennai-600014  
Tel.: +91-44-28113239  
Fax: +91-44-28111383  
e-mail: sericol.chennai@fujifilmsericol.com

Tirupur  
18/2, K.V.R. Nagar, Main Road, Near  
Nair Hospital, Karuvampalayam,  
Tirupur 641 604  
Tel: (0421) 2232850/22326972  
E-mail:  
sericol.tirupur@fujifilmsericol.com

Kolkata  
16/1 Panchnantala Road, Belgharia, Kolkata-  
7000 56.  
West Bengal Tel.: +91-033 - 25560450  
Fax: +91-033 - 25560450  
E-mail: dipankar.sasmal@fujifilmsericol.com

Delhi  
B50, Naraina Ind Area, Phase II, Near  
Banquet Hall, New Delhi-110028.  
Tel.: +91-11-25453247 / 9613, +91-11-  
30931600  
Fax: +91-11-25459613  
e-mail: sericol.delhi@fujifilmsericol.com