



## DATA SHEET

### PHOTOCHROMIC UV SCREEN INK

#### DESCRIPTION

CTI's photochromic screen inks, in printed form, are colorless when kept indoors or when kept out of the presence of UV light. Once they are taken outside and exposed to sunlight or any other UV light source, they will change from their colorless state to a colored state. Note that depending on the film weight of the screen ink, it is possible to have a slight amount of residual color or a color hue in the colorless state. This color hue will be more noticeable at increased film weights. See Color Availability Chart for a complete list of available colors. CTI's screen ink is ideal for promotional items, games, novelties, etc.

#### TYPICAL PROPERTIES

Viscosity (at 25° C)	30-60 poise
Density (Approx.)	9.0 lb./gal
Appearance	Viscous Liquid
Percent Solids (Approx.)	90%
Percent Volatiles (Approx.)	<5.7%
Yield Range (Approx.)	10,000-50,000 in <sup>2</sup> /lb. (depending on film thickness)
Recommended Substrates	Paper, Film

#### STORAGE AND HANDLING

CTI's products should be stored in a cool, dry place. The inks are stable when stored away from heat. The material is combustible and should not be used near open flame. Store Below 80° F. Product must be used within twelve months of purchase. Consult MSDS prior to use.

#### SPECIAL CARE INSTRUCTIONS

CTI's Photochromic UV screen ink is simple to use, but it is a little different from other UV screen inks. The differences between our ink and regular UV screen inks are outlined below. The instructions below should be followed carefully to achieve optimum results.

- **Ink**-Avoid contact of the ink with unapproved chemicals. To ensure this, always dry the screen completely before adding the ink to the screen. Always be sure that equipment that comes in contact with the ink is dry and free of solvents. Also, when cleaning the screen in the middle of the run, do not allow any solvent to touch the unused ink.
- **Mixing**- Be sure to stir the ink well before and during use.
- **Screen Mesh**-A coating thickness of at least 1 mil (25 microns) is recommended for best results, due to the low color intensity of the photochromic ink. Finer meshes may work with some applications. Coarse screens, such as an 80-150 mesh are sometimes required for certain jobs. Rotary screen emulsions can be over-exposed to insure best resistance to emulsion breakdown. Test all applications before any large runs.
- **Artwork**- CTI's photochromic UV Screen ink is a translucent ink. For best color, print over white or light colors. It will print like a normal translucent ink, not an opaque ink, Photochromic inks will not hide messages.
- **Clean Up**- Use normal solvents, but be sure screens are dry before adding CTI's ink to the press.
- **Thinning**- CTI has extenders and thinners should you need them. Use CTI approved thinners only.
- **Curing**-Do not over-cure, as any yellowing caused by over-curing will affect the appearance of this light colored product.





- **Substrates**-This ink will work well with most types of coated and uncoated stocks, as well as many plastics. Compatibility of ink, coating and substrate must be determined prior to production runs.

## SENSITIVITY

Photochromic materials are sensitive to adverse environmental conditions. These are listed below, along with a description of the nature of the sensitivity, and recommendations with regards to them.

**LIGHT:** Long exposure to UV and some fluorescent lights can degrade color intensity and changing characteristics of the ink. Extreme exposure of several days of direct sunlight may degrade the color intensity of the ink. More than 600 hours of a strong fluorescent light may also cause a loss of color in the photochromic. Assume that they are about as sensitive to light as fluorescent pigments.

**HEAT:** Extended exposure to very high temperatures, i.e., 100° F or higher, can also degrade the color intensity. The exposure only has an effect if a given temperature is constantly maintained for a given amount of time. The effect is time and temperature dependent.

**CHEMICALS:** Photochromic materials are sensitive to chemical exposure as well. Since it is very unlikely that the printed piece will come into contact with deleterious chemicals under normal conditions, this should not be of great concern.

**CONCLUSION:** CTI's ink should be stored in a cool, dry place, away from direct exposure to light, especially sunlight. Ink in the can should be used within six months.

For further information or assistance, please contact Chromatic Technologies, Inc. at (888) 294-4CTI.

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