



## Material Safety Data Sheet

Conforms to EU Directive 91/155/EEC and ISO 11014-1

**Product name** : 3500 UV Screen Ink

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Version : 1.00

Date of issue : 24/10/2009.

Date of previous issue : No previous validation.

### 1. Identification of the substance/preparation and of the company

**Product name** : 3500 UV Screen Ink  
**Product code** : 496  
**Use of the substance/preparation** : Ultraviolet curable screen ink  
**Supplier** : GL Specialized Inks (Pty) Ltd  
8 Hawthorne Place, Mahogany Ridge, Pinetown, Durban  
**Emergency telephone number** : Office Hours:  
031 - 700 6455  
After hours:  
082 451 6588 (Jay)  
082 780 8837 (Julie)  
082 452 2143 (Gordon)

### 2. Composition/information on ingredients

**Chemical characterization** : Mixture.

Ingredient name	CAS number	%	EC number	Classification
resin mixture		0 - 20		Not classified.
acrylate mixture		5 - 51		Not classified.
pigment mixture		0 - 18		Not classified.
2-propenoic acid, 2-phenoxyethyl ester	48145-04-6	27 - 48	256-360-6	Xi; R36
titanium dioxide	13463-67-7	0 - 29	236-675-5	Not classified.
iron(iii)oxide	1309-37-1	0 - 20	215-168-2	Not classified.
carbon black	1333-86-4	0 - 5	215-609-9	Not classified.
calcium carbonate.	471-34-1	0 - 5	207-439-9	Not classified.
silica, amorphous, fumed	7631-86-9	0 - 4	231-545-4	Not classified.
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

**This MSDS covers all formulations in the the range. Not all of the components listed will be present in an individual formulation. Formulae specific MSDS available on request.**

### 3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Xi; R36

**Physical/chemical hazards** : No known significant effects or critical hazards.

**Human health hazards** : Irritating to eyes.

**Environmental hazards** : No known significant effects or critical hazards.

**See section 11 for more detailed information on health effects and symptoms.**

### 4. First aid measures

**Inhalation** : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

- Ingestion** : Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation develops. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

See section 11 for more detailed information on health effects and symptoms.

## 5. Fire-fighting measures

### Extinguishing media

**Suitable** : In case of fire, use water spray (fog), foam or dry chemical.

**Not suitable** : None known.

**Special exposure hazards** : No specific hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials: carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub> etc.). Some metallic oxides.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Methods for cleaning up** : If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials), scoop up material and place in a sealable, liquid-proof container for disposal. arsf:fhaa:7pt Place spilled material in an appropriate container for disposal.

## 7. Handling and storage

**Handling** : Avoid contact with eyes. Wash thoroughly after handling.

**Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area.

### Packaging materials

**Recommended** : Use original container.

## 8. Exposure controls/personal protection

**Exposure limit values** :

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
titanium dioxide	<p><b>ACGIH (United States).</b> TWA: 10 mg/m<sup>3</sup> <b>ACGIH TLV (United States, 1/2004). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.</b> TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: All forms</p>
iron(iii)oxide	<p><b>ACGIH (United States).</b> TWA: 5 mg/m<sup>3</sup> <b>ACGIH TLV (United States, 1/2004). Notes: 1996 Adoption The value is for total dust containing no asbestos and &lt; 1% crystalline silica. Refers to Appendix A -- Carcinogens.</b> TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: All forms <b>ACGIH TLV (United States, 1/2004). Notes: 1996 Adoption Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract. Refers to Appendix B -- Substances of Variable Composition</b> TWA: 5 mg/m<sup>3</sup> 8 hour(s). Form: Dust and fumes</p>

carbon black	<b>ACGIH TLV (United States, 1/2004). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Refers to Appendix A -- Carcinogens.</b> TWA: 3.5 mg/m <sup>3</sup> 8 hour(s). Form: All forms
calcium carbonate.	<b>ACGIH TLV (United States, 1/2004). Notes: The value is for total dust containing no asbestos and &lt; 1% crystalline silica.</b> TWA: 10 mg/m <sup>3</sup> 8 hour(s). Form: All forms
silica, amorphous, fumed	<b>ACGIH (United States).</b> TWA: 10 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup>

- Occupational exposure controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: Neoprene gloves. Nitrile gloves.
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## 9. Physical and chemical properties

### General information

#### Appearance

- Physical state** : Liquid. (Viscous liquid.)
- Color** : Various
- Odor** : Sweetish. (Slight.)

### Important health, safety and environmental information

- Boiling point** : >150°C (302°F)
- Melting point** : May start to solidify at the following temperature: -36°C (-32.8°F) This is based on data for the following ingredient: 2-propenoic acid, 2-phenoxyethyl ester.
- Flash point** : Closed cup: >95°C (203°F). (Pensky-Martens.)
- Flammability (solid, gas)** : Combustible liquid
- Explosive properties** : Slightly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
- Relative density** : 0.95 to 1.25 g/cm<sup>3</sup>
- Solubility** : Insoluble in the following materials: cold water, hot water, methanol, diethyl ether, n-octanol, acetone.
- Octanol/water partition coefficient** : The product is insoluble in water and octanol.

### Other information

- Auto-ignition temperature** : Lowest known value: 485°C (905°F) (2-propenoic acid, 2-phenoxyethyl ester).

## 10. Stability and reactivity

- Stability** : The product is stable.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, acids.
- Hazardous decomposition products** : Evolves toxic fumes when heated to decomposition.

**11. Toxicological information****Potential acute health effects**

- Inhalation** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.  
**Skin contact** : Slightly irritating to the skin.  
**Eye contact** : Irritating to eyes.

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
2-propenoic acid, 2-phenoxyethyl ester carbon black	LD50 Intraperitoneal	Rat	900 mg/kg	-
	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-
Calcium carbonate	LD50 Oral	Rat	6450 mg/kg	-
	TDL <sub>o</sub> Oral	Rat	60 gm/kg	-
silica, amorphous, fumed	LD50 Oral	Rat	3160 mg/kg	-

**Potential chronic health effects**

- Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

**Over-exposure signs/symptoms**

- Inhalation** : Inhalation of vapors may cause dizziness, an irregular heartbeat, narcosis, nausea or asphyxiation.  
**Ingestion** : Ingestion may cause nausea, weakness and central nervous system effects.  
**Skin** : Repeated skin exposure can produce local skin destruction or dermatitis.  
**Target organs** : Contains material which causes damage to the following organs: lungs, upper respiratory tract, skin, eye, lens or cornea

**12. Ecological information****Ecotoxicity data**

Ingredient name	Species	Period	Result
titanium dioxide	Daphnia magna (EC50)	48 hour(s)	>1000 mg/l

**Other ecological information****Persistence/degradability**

Ingredient name	Aquatic half-life	Photolysis	Biodegradability
2-propenoic acid, 2-phenoxyethyl ester	-	-	Inherent

- Other adverse effects** : No known significant effects or critical hazards.

**13. Disposal considerations**

- Methods of disposal** : Non-hazardous waste  
Waste must be disposed to a landfill permitted in terms of the Department of Water Affairs and Forestry's minimum requirements for waste disposal to landfill, and the minimum requirements for the handling, classification and disposal of hazardous waste.

**14. Transport information**

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
ADR / SANS 10228 Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA Class	Not regulated.	-	-	-		-

**15. Regulatory information****SANS 10265 / EU Regulations****Hazard symbol or symbols**

:



Irritant

**Risk phrases**

: R36- Irritating to eyes.

**Safety phrases**

: S25- Avoid contact with eyes.

**Product use**: Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.  
- Industrial applications.**16. Other information****Full text of R-phrases referred to in sections 2 and 3 - Europe**

: R36- Irritating to eyes.

**Prepared by**

: GL Inks EHS

**Notice to reader**

This MSDS summarises at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product and, in particular, how to safely handle, use, and transport the product in the workplace. Since GL Specialized inks (Pty) Ltd cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review the MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond; and communicate such information to all relevant parties. If clarification, or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability of the accuracy or completeness of the information contained herein, or any advice given, unless there has been gross negligence on our part. In such an event, or liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standard terms and conditions. All risk with possession and application of the product passes on delivery.