

## Material Safety Data Sheet

**Material Name: SpotPen Black Spot Remover Pens**
**ID: SPOTPEN3**

### \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Product Use:** For Removing Black Spots on Black and White Photographs

**Manufacturer Information**

 SpotPen, Inc.  
 Rt. 1 Box 97  
 Orlando, OK 73073

 580-864-7753 or  
 Poison control

### \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

CAS #	Component	Percent
	<b>Pen A</b>	
7732-18-5	Water	40-70
107-21-1	Ethylene glycol	15-20
13746-66-2	Potassium ferricyanide	15-20
7758-02-3	Potassium bromide	5-10
	<b>Pen B</b>	
7732-18-5	Water	80-95
7772-98-7	Sodium thiosulfate	10-15
62-56-6	Thiourea	1-5

**Component Information/Information on Non-Hazardous Components**

This product meets the definition of an article under 29 CFR 1910.1200.

### \*\*\* Section 3 - Hazards Identification \*\*\*

**Emergency Overview**

Product is a set of two pens, Pen A and Pen B. Pen A contains a yellow, odorless liquid. Pen B contains a clear, odorless liquid. The pens are not expected to pose a health hazard unless a person is overexposed to the liquid contents due to breakage or intentional misuse. The liquid contents of the pens may cause eye and skin irritation, and may be harmful with prolonged or repeated exposure by inhalation, or if it is swallowed. The liquid contents of Pens A and B may be absorbed through the skin. Pen A contains a component that may cause kidney and liver damage, and birth defects. Pen B contains a component that may cause cancer and birth defects. Pen B contains components that may cause allergic skin sensitization reactions. Fires may produce toxic and irritating fumes.

**Hazard Statements**

**CAUTION! THE LIQUID CONTENTS OF THE PENS MAY CAUSE EYE AND SKIN IRRITATION, AND MAY BE HARMFUL WITH PROLONGED OR REPEATED EXPOSURE BY INHALATION. MAY CAUSE ALLERGIC SKIN SENSITIZATION REACTION. HARMFUL IF SWALLOWED. CONTAINS THIOUREA, WHICH MAY CAUSE CANCER.** Avoid breathing fumes from the pens. Use only with adequate ventilation. Keep pens tightly capped when not in use. Do not allow the liquid in the pens to contact the skin or eyes. Wash thoroughly after using. Do not ingest the liquid contents of the pens. For adult use only.

**Potential Health Effects: Eyes**

Direct contact of pen tip with eye may produce severe eye irritation, causing prolonged vision impairment, tears, swelling, and redness.

**Potential Health Effects: Skin**

Not expected to cause skin irritation with normal use. However, prolonged or repeated contact with the liquid from the pens may produce skin irritation and discoloration. Symptoms may include redness, itching, rash, or ulceration. The liquid in the pens contains components that may be harmful if absorbed through the skin. Pen B contains components that may produce allergic skin sensitization reactions.

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**Potential Health Effects: Ingestion**

Ingestion of this product is unlikely. Ingestion of small amounts of pen contents may cause gastrointestinal irritation, nausea, vomiting, abdominal cramping, and diarrhea. If large amounts of the liquid contents are ingested (due to breakage of pen or intentional misuse) serious toxicity could result, including damage to the kidneys and nervous system.

**Potential Health Effects: Inhalation**

Not expected to be an inhalation hazard under normal use. Prolonged or repeated inhalation of vapors may cause respiratory irritation and possible central nervous system depression, resulting in nausea, dizziness, and incoordination.

**HMIS Ratings: Health: 2\* Fire: 1 Reactivity: 0 Pers. Prot.: impervious gloves**

**Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard**

**\*\*\* Section 4 - First Aid Measures \*\*\***

**First Aid: Eyes**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**First Aid: Skin**

For skin contact, wash immediately with soap and water. If irritation develops, get medical attention.

**First Aid: Ingestion**

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

**First Aid: Inhalation**

If inhaled, immediately remove the affected person to fresh air. Seek medical attention if symptoms develop or persist.

**First Aid: Notes to Physician**

Provide general supportive measures and treat symptomatically.

**\*\*\* Section 5 - Fire Fighting Measures \*\*\***

**Flash Point:** Not Available

**Upper Flammable Limit (UFL):** Not Available

**Auto Ignition:** Not Available

**Rate of Burning:** Not Available

**General Fire Hazards**

Pens are not expected to be a fire hazard. However, unevaporated liquid from Pen A may increase the flammability of material it is applied to.

**Hazardous Combustion Products**

Upon decomposition, this product may emit acrid smoke and irritating and toxic fumes, including carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, hydrogen bromide, oxides of potassium, hydrogen sulfide, disodium oxide, sulfur oxides, ammonia, and/or low molecular weight hydrocarbons.

**Extinguishing Media**

Use dry chemical, carbon dioxide, water spray, or foam for fires.

**Fire Fighting Equipment/Instructions**

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0 Other:**

**Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe**

**\*\*\* Section 6 - Accidental Release Measures \*\*\***

**Containment Procedures**

Wipe up liquid with absorbent cloth and place in appropriate waste container.

**Clean-Up Procedures**

Wear appropriate protective equipment and clothing during clean-up. Wipe up liquid with absorbent material and place in appropriate waste container. Thoroughly wash the area with detergent and water after a spill or leak clean-up.

**Evacuation Procedures**

Keep unnecessary personnel away until cleanup is complete.

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### Special Procedures

Do not allow spilled material to contact skin. Remove soiled clothing and launder before reuse.

### \*\*\* Section 7 - Handling and Storage \*\*\*

### Handling Procedures

Do not allow liquid contents of pens to contact with eyes, skin, or clothing. Keep this product from heat, sparks, or open flame. Avoid prolonged or repeated inhalation of vapors. Use this product with adequate ventilation. Do not reuse the empty container. Wash thoroughly after handling.

### Storage Procedures

Keep this material away from food, drink and animal feed. Keep the pens tightly capped and away from moisture. Keep away from oxidizing agents, excessive heat, and ignition sources. Store in well-ventilated areas.

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

### Exposure Guidelines

#### A: General Product Information

Do not allow contact with skin and eyes, and limit inhalation exposure. Keep this product away from children and pets.

#### B: Component Exposure Limits

Ethylene glycol (107-21-1)

ACGIH: aerosol: 100 mg/m<sup>3</sup>

OSHA: C 50 ppm; C 125 mg/m<sup>3</sup>

NIOSH: no established RELs - see Appendix D

### Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

### PERSONAL PROTECTIVE EQUIPMENT

#### Personal Protective Equipment: Eyes/Face

None required for normal use. Wear chemical goggles to prevent eye irritation due to vapors.

#### Personal Protective Equipment: Skin

Protective equipment for the skin should not be necessary, provided that the solution in the pens does not come in contact with the skin. Wear impervious gloves if skin contact with liquid contents of pens is likely. It is recommended that gloves be tested to determine suitability for prolonged contact.

#### Personal Protective Equipment: Respiratory

If ventilation is not sufficient to effectively prevent buildup of vapors, appropriate NIOSH-approved respiratory protection must be provided.

#### Personal Protective Equipment: General

Eye wash fountain is recommended if splashing is possible.

### \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

<b>Appearance:</b>	Pen A - Yellow Pen B - Clear	<b>Odor:</b>	None
<b>Physical State:</b>	Liquid	<b>pH:</b>	Not Available
<b>Vapor Pressure:</b>	Not Available	<b>Vapor Density:</b>	Not Available
<b>Boiling Point:</b>	Not Available	<b>Melting Point:</b>	Not Available
<b>Solubility (H<sub>2</sub>O):</b>	Soluble	<b>Specific Gravity:</b>	Not Available
<b>Evaporation Rate:</b>	Not Available		

### \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

#### Chemical Stability

This is a stable material.

#### Chemical Stability: Conditions to Avoid

Incompatible substances (see below), oxidizing agents, excessive heat, and all sources of ignition.

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### Incompatibility

The following incompatibilities for the pen components are listed. However, due to the small volume of components in each pen, reactions are unlikely to occur.

**Ethylene Glycol Component** - strong bases, strong oxidizing agents, chlorosulfonic acid, dimethyl terephthalate + titanium butoxide, oleum, perchloric acid, phosphorus (V) sulfide, potassium dichromate, silvered copper wire, and sulfuric acid. Ignites on contact with chromium trioxide, potassium permanganate, and sodium peroxide. Mixtures with ammonium dichromate, silver chlorate, sodium chlorite, and uranyl nitrate ignite when heated to 100 deg C.

**Thiourea Component** - strong oxidizing agents, acrolein, nitric acid, and hydrogen peroxide.

**Sodium Thiosulfate Component** - violent reaction with sodium nitrate.

**Potassium Bromide Component** - heavy metal salts, bromine trifluoride.

### Hazardous Decomposition

Upon decomposition, this product may emit acrid smoke and irritating and toxic fumes, including carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, hydrogen bromide, oxides of potassium, hydrogen sulfide, disodium oxide, sulfur oxides, ammonia, and/or low molecular weight hydrocarbons.

### Hazardous Polymerization

Hazardous polymerization will not occur.

## \*\*\* Section 11 - Toxicological Information \*\*\*

### Acute Toxicity

#### A: General Product Information

The pens are not expected to pose a health hazard unless a person is overexposed to the liquid contents due to breakage or intentional misuse. Not expected to cause skin irritation with normal use. However, prolonged or repeated contact with the liquid from the pens may produce skin irritation and discoloration. Symptoms may include redness, itching, rash, or ulceration. The pens contain the following components that may be absorbed through the skin: ethylene glycol (Pen A), and thiourea (Pen B). Pen B contains sodium thiosulfate and thiourea, which may cause allergic skin sensitization reactions with prolonged or repeated exposures. The liquid in the pens contains components that may be harmful if absorbed through the skin. Direct contact of pen tip with eye may produce severe eye irritation, causing prolonged vision impairment, tears, swelling, and redness. Not expected to be an inhalation hazard under normal use. Prolonged or repeated inhalation of vapors may cause respiratory irritation and possible central nervous system depression, resulting in nausea, dizziness, and incoordination. Ingestion of this product is unlikely. Ingestion of small amounts of pen contents may cause gastrointestinal irritation, nausea, vomiting, abdominal cramping, and diarrhea. If large amounts of the liquid contents are ingested (due to breakage of pen or intentional misuse) serious toxicity could result from ethylene glycol ingestion, including central nervous system stimulation followed by depression, kidney, and liver damage, metabolic acidosis, and pulmonary edema. Following ingestion of ethylene glycol, crystals of calcium oxalate may form in the kidney and in the blood vessels of the brain.

Pen A contains potassium bromide, which, when ingested can cause a number of CNS effects, including CNS depression, drowsiness, irritability, dizziness, confusion, and sensory disturbances. Ingestion of potassium bromide can also cause visual disturbances and liver and kidney damage.

The potassium ferricyanide in Pen A is only slightly toxic and poses only a slight handling hazard.

Chronic administration of thiourea in rats resulted in bone marrow depression and goiters.

#### B: Component Analysis - LD50/LC50

**Ethylene glycol (107-21-1)**

Dermal LD50 Rabbit: 9530 uL/kg

Oral LD50 Mouse: 5500 mg/kg

Inhalation LC50 Rat: 10876 mg/kg

Oral LD50 Rat: 4700 mg/kg

**Potassium ferricyanide (13746-66-2)**

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Oral LD50 Mouse: 2970 mg/kg  
 Potassium bromide (7758-02-3)  
 Oral LD50 Mouse: 3120 mg/kg  
 Oral LD50 Rat: 3070 mg/kg  
 Thiourea (62-56-6)  
 Oral LD50 Rat: 125 mg/kg

### Carcinogenicity

**A: General Product Information**

No data available on product as a whole. Chronic oral exposure to thiourea has been shown to produce hepatic and thyroid tumors in rats.

**B: Component Carcinogenicity**

**Ethylene glycol (107-21-1)**

ACGIH: A4 - not classifiable as a human carcinogen

**Thiourea (62-56-6)**

NTP: suspect carcinogen (Possible Select Carcinogen)

IARC: Monograph 7, Supplement 7; 1987 (Group 2B (sufficient animal data))

### Epidemiology

No information available.

### Neurotoxicity

Prolonged or repeated inhalation of vapors of Pen A, which contains ethylene glycol, may cause respiratory irritation and possible CNS depression, resulting in nausea, dizziness, and incoordination. Pen A contains potassium bromide, which, when ingested can cause CNS depression, drowsiness, irritability, dizziness, confusion, and sensory disturbances.

### Mutagenicity

Thiourea has been shown to directly interact with DNA in vitro, but in vivo data are insufficient.

### Teratogenicity

Ethylene glycol causes birth defects in laboratory animals. Thiourea has been shown to produce fetotoxicity, nervous and endocrine system abnormalities, and musculoskeletal abnormalities in laboratory animals.

### Other Toxicological Information

None.

**\*\*\* Section 12 - Ecological Information \*\*\***

### Ecotoxicity

**A: General Product Information**

Keep out of sewers and waterways.

**B: Component Analysis - Ecotoxicity - Aquatic Toxicity**

**Ethylene glycol (107-21-1)**

LC50 (96 hr) rainbow trout: 41000 mg/L. Cond: 20 degrees C.; LC50 (96 hr) bluegill: 27,500-41,000 mg/L.;

LC50 (96 hr) goldfish: 27,500-41,000 mg/L.; LC50 (48 hr) water flea: 46,300 mg/L.; EC50 (30 min)

Photobacterium phosphoreum: 620.0 ppm Microtox test.

**Thiourea (62-56-6)**

LC50 (96 hr) fathead minnow: >600 mg/L.; EC50 (15 min) Phosphobacterium phosphoreum: 3400 ppm Microtox test.

### Environmental Fate

No additional information.

**\*\*\* Section 13 - Disposal Considerations \*\*\***

### US EPA Waste Number & Descriptions

**A: General Product Information**

No additional information available.

**B: Component Waste Numbers**

Thiourea

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a (62-56-6)

RCRA: waste number U219

**Disposal Instructions**

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. Do not allow the material in this product to drain into sewers/water supplies.

**\*\*\* Section 14 - Transportation Information \*\*\***

**US DOT Information**

**Shipping Name:** Not regulated

**Hazard Class:** None

**UN/NA #:** None

**Packing Group:** None

**Required Label(s):** None

**Additional Info.:** None

**International Transportation Regulations**

Not available.

**\*\*\* Section 15 - Regulatory Information \*\*\***

**US Federal Regulations**

**A: General Product Information**

No additional information available.

**B: Component Analysis**

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

**Ethylene glycol (107-21-1)**

SARA 313: form R reporting required for 1.0% de minimus concentration

**Thiourea (62-56-6)**

SARA 313: form R reporting required for 0.1% de minimus concentration

CERCLA: final RQ = 10 pounds (4.54 kg)

**State Regulations**

**A: General Product Information**

No additional information available.

**B: Component Analysis - State**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Ethylene glycol	107-21-1	Yes	Yes	Yes	Yes	Yes	Yes
Thiourea	62-56-6	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

**WARNING!** This product contains a chemical known to the state of California to cause cancer.

**Other Regulations**

**A: General Product Information**

No additional information available.

**B: Component Analysis - Inventory**

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Component	CAS #	TSCA	DSL	EINECS
Ethylene glycol	107-21-1	Yes	Yes	Yes
Potassium ferricyanide	13746-66-2	Yes	Yes	Yes
Sodium thiosulfate	7772-98-7	Yes	Yes	Yes
Potassium bromide	7758-02-3	Yes	Yes	Yes
Water	7732-18-5	Yes	Yes	Yes
Thiourea	62-56-6	Yes	Yes	Yes

**C: Component Analysis - WHMIS IDL**

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Ethylene glycol	107-21-1	1% item 716 (860)
Potassium bromide	7758-02-3	0.1% item 1328 (340)
Thiourea	62-56-6	0.1% item 1565 (1619)

### \* \* \* Section 16 - Other Information \* \* \*

**Other Information**

This information is to the best of the company's knowledge and is believed accurate based on information currently available to us. However, no representation, warranty, or guarantee of any kind, express or implied, is made as to its accuracy, reliability, or completeness, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

**Key/Legend**

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH - American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

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This is the end of MSDS # SPOTPEN3