

Safety Data Sheet



Revision Date: 7/31/2014

SDS #: SDS-10213-01

Silver Enhancer Kit

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Silver Enhancer Kit

Product Code

50-22-02

Kit Components:

Silver Enhancer Solution A (Membrane) 50-22-05

Silver Enhancer Solution B (Membrane) 50-22-06

Recommended Use Kit (See Attached Safety Data Sheets For Components Listed Above)

Contact Manufacturer KPL, Inc.
910 Clopper Road
Gaithersburg, Maryland 20878
USA

Phone #: 1-301-948-7755

Fax #: 1-301-948-0169

Web: www.kpl.com

Email: kplmsds@seracare.com

Emergency Telephone Numbers:

AUSTRALIA – POISONS INFORMATION CENTER

Telephone: 13 11 26

Hours: 24 hours

CANADIAN TRANSPORT EMERGENCY CENTER

Telephone: (1) 613 996 6666

Hours: 24 hours/day, 7 days/week

UK – THE NATIONAL FOCUS

Telephone: (44) 029 2041 6388

Hours: 09:00-17:00 GMT

USA- NATIONAL RESPONSE CENTER

Telephone: (1) 800 424 8802

Hours: 24 hours/day, 7 days/week

CHEMTREC:

CHEMTREC Customer Number:- CCN12505*

For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300 CCN12505 or

+1 703-527-3887 (collect calls accepted)

Safety Data Sheet



Revision Date: 9/15/2014

SDS # SDS-10203-01

Silver Enhancer Solution A (Membrane)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Silver Enhancer Solution A (Membrane)

Product Code

50-22-05

Hazardous Reagent

Silver Enhancer Solution A (Membrane)

Hazardous Reagent Product code

Catalog No. Listed Above

Recommended Use Reagent

Contact Manufacturer KPL, Inc.
910 Clopper Road
Gaithersburg, Maryland 20878
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Phone #: 1-301-948-7755

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2. HAZARD IDENTIFICATION

Hazard Type

Health and Environmental Hazard

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Classification

Acute toxicity, Category 4, oral; H302
Skin corrosion, Category 1C; H314
Reproductive toxicity, Category 1B; H360D
Hazardous to the aquatic environment, Acute Category 1; H400

Hazard Statement

H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H360D: May damage the unborn child.
H400: Very toxic to aquatic life.

Precautionary Statement

P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for sever

Symbols of Danger

GHS05 GHS08 GHS07 GHS09 Dgr

**Data for 100% Hazardous Chemical**

ROUTES OF EXPOSURE:	The substance can be absorbed into the body by ingestion.
INHALATION RISK:	No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20°C.
SHORT-TERM EXPOSURE	The substance is corrosive to the skin, is severely irritating to the eyes and is irritating to the respiratory tract.
LONG-TERM EXPOSURE:	Animal tests show that this substance possibly causes toxicity to human reproduction or development.

The product is a Mixture. It May Cause the following symptoms.

EYES: Redness. Pain. Blurred vision. Temporary loss of vision.

SKIN: Redness. Pain. Serious skin burns.

INHALATION: Cough. Sore throat. Burning sensation.

INGESTION: Sore throat. Burning sensation in the throat and chest.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
Silver Enhancer Solution A (Membrane)	Proprietary Ingredient 1	<3.5%	Proprietary (Classified)
	Silver Acetate	0.1%	563-63-3

<u>Classification</u>	Acute toxicity, Category 4, oral; H302 Skin corrosion, Category 1C; H314 Reproductive toxicity, Category 1B; H360D Hazardous to the aquatic environment, Acute Category 1; H400
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4. FIRST AID MEASURES**Data for 100% Hazardous Chemical**

Ingestion First Aid:	Rinse mouth. Rest. Do NOT induce vomiting. Give one or two glasses of water to drink. Refer immediately for medical attention.
Inhalation First Aid:	Fresh air, rest. Refer for medical attention.
Skin First Aid:	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer immediately for medical attention.
Eye First Aid:	Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

5. FIRE FIGHTING MEASURES**Data For 100% Hazardous Chemical**

Fire Acute Hazard:	Fire Prevention:	Fire Fighting:
Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Water spray, foam, powder, carbon dioxide.
Explosion Acute Hazard:		
Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	In case of fire: keep drums, etc., cool by spraying with water.

CHEMICAL DANGERS: The substance decomposes on burning producing toxic fumes including nitrogen oxides. The solution in water is a weak base. Reacts violently with strong acids.

PHYSICAL DANGERS: Dust explosion possible if in powder or granular form, mixed with air.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Hazard to waters. Inform the responsible authorities when larger quantities get into water, drainage, sewer, or the ground.
Method of Containment	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Methods of Clean-up	Clean-up with copious amounts of water. Afterwards ventilate area.
Other Information	Not Available

Data for 100% Hazardous Chemical

SPILLAGE DISPOSAL	Personal protection: complete protective clothing including self-contained breathing apparatus. Sweep spilled substance into covered containers. Then wash away with plenty of water.
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7. HANDLING AND STORAGE

Handling:	Handle in accordance with good industrial hygiene and safety practice.
Storage:	Store at 2-8°C.

Data for 100% Hazardous Chemical

STORAGE	Separated from strong acids and food and feedstuffs.
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8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

• INHALATION	Local exhaust or breathing protection. Avoid inhalation of dust.
• EYES	Face shield or eye protection in combination with breathing protection if powder.
• SKIN	Protective clothing.
• INGESTION	Do not eat, drink, or smoke during work.

Engineering Controls Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Solution	
Physical State	Liquid	pH: 8.0 - 10.0

Data for 100% Hazardous Chemical

Boiling Point: Not Available	Melting point: 89°C	Relative density (water = 1): 1.03g/cm ³	Solubility in water, g/100 ml at 20°C: 63.3 (good)	Vapour pressure, Pa at 20°C: 0.3	Relative vapour density (air = 1): 2.35
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.0	Flashpoint: 145°C c.c.	Auto-ignition temperature: 480°C	Octanol/water partition coefficient as log Pow: -0.02	Viscosity, mm ² /s at 100 °C: 2.617	

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Incompatibility Materials to Avoid	Do not store with Strongly oxidizing substances; Ammonium nitrate and preparations containing ammonium nitrate; - Organic peroxides and self reactive substances.

Hazardous Decomposition Products	Attention! Hazardous decomposition products may occur. Nitrous gases (nitric oxides) Carbon monoxide and carbon dioxide
Hazardous Polymerization	Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS:	The substance decomposes on burning producing toxic fumes including nitrogen oxides . The solution in water is a weak base. Reacts violently with strong acids.
PHYSICAL DANGERS:	Dust explosion possible if in powder or granular form, mixed with air.

11. TOXICOLOGY MEASURES**Acute Toxicity**

The toxicological risks are minor due to the low concentration of hazardous ingredients. The following toxicological information is for the hazardous ingredient in pure form.

LD50 Oral Data for 100% Proprietary Component: LD50 oral rat

Value: ca. 970 mg/kg
Reference: BASF Test

LD50 Dermal No Data Available

LC50 Inhalation No Data Available

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product.

Irritation Not Available

Corrosivity Data for 100% Proprietary Component: Skin corrosion, Category 1C; H314 - Causes severe skin burns and eye damage.

Sensitization No Data Available

Neurological Effects No Data Available

Mutagenic Effects No Data Available

Reproductive Effects Data for 100% Proprietary Component: H360D: May damage the unborn child.

Developmental Effects Data for 100% Proprietary Component: H360D: May damage the unborn child.

Target Organ Effects No Data Available

Other adverse effects Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity Hazard to waters. H400 Very toxic to aquatic life.

Persistence/Degradability Not Available

Mobility in Environmental Media Not Available

Bioaccumulation/ Accumulation Not Available

13. DISPOSAL MEASURES

Waste Disposal Method: If there is no way of recycling it must be disposed of in compliance with the respective national and local regulations.

Collection of small amounts of substance: Do not put/place waste into sink or dust bin.
Collect in container for solid organic residues.
Collection vessels must be clearly labelled with a systematic description of their contents. Store the vessels in a well-ventilated location. Entrust them to the

appropriate authorities for disposal.

Contaminated Packaging: Avoid contact with skin and clothing. Dispose of in compliance with the respective national and local regulations.

US EPA Waste Number: Not Available

14. TRANSPORTATION MEASURES

DOT: Data for 100% Proprietary Component: UN
Number: 3263
Shipping name: Corrosive solid, basic, organic,
n.o.s.
Hazard Identification Number: 80
Class: 8 (Corrosive Substances)
Packing Group: III (low danger)
Danger Label: 8
Data for 100% Silver Acetate: UN Number: 3077
Shipping name: Environmentally hazardous
substances, solid, n.o.s.
Hazard Identification Number: 90
Class: 9 (Miscellaneous items and materials)
Packing Group: III (low danger)
Danger Label: 9

IATA: Not Available

ADR (road)/ RID (rail): Not Available

IMDG (sea): Not Available

General Transport Regulations Not Available

15. REGULATORY MEASURES

This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 g 2.C1.

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains no chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (See 40 CFR 61)

Not Listed

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: Not Listed

State Right to Know Act

Chemical Name	Proprietary Ingredient	Silver Acetate
	1	Not Listed
Massachusetts	Not Listed	
New Jersey	Not Listed	Not Listed
Pennsylvania	Not Listed	Not Listed
New York	Not Listed	Not Listed
Rhode Island	Not Listed	Not Listed

International Inventories

Chemical Name	Proprietary Ingredient	Silver Acetate
TSCA	Listed	Listed
DSL	Listed	Listed
NDSL	Not Listed	Not Listed
EINECS	Listed	Listed

CHINA	Listed	Listed
KECL	Listed	Not Listed
JAPAN:	Listed	Listed
AICS	Listed	Listed

EU Regulations

Annex I Index#	Not Applicable
Classification	Acute toxicity, Category 4, oral; H302 Skin corrosion, Category 1C; H314 Reproductive toxicity, Category 1B; H360D Hazardous to the aquatic environment, Acute Category 1; H400
Risk Phrases	H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H360D: May damage the unborn child. H400: Very toxic to aquatic life.
Safety Phrases	P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P308+P313: IF exposed or concerned: Get medical advice/attention. P305+P351+P338: IF IN EYES: Rinse cautiously with water for sever
Symbols and Indications of Danger	GHS05 GHS08 GHS07 GHS09 Dgr
Specific Concentration Limits	Not Available
Export and Import	This substance is not listed in the Annex I of Regulation (EC) No 649/2012.
European Priority List	This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

16. OTHER INFORMATION

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. KPL shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes. This material is sold for research purposes and is intended as laboratory reagents only. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals.

Revision Date: 9/15/2014

MATERIAL SAFETY DATA SHEET



Issue Date: 20 March, 2006
Revision Date: 6 November, 2003

1. IDENTIFICATION

Silver Enhancer Solution B (Membrane)

Catalog No

50-22-06

2. COMPOSITION AND INGREDIENTS INFORMATION

Reagent

Hydroquinone

Weight %

0.6%

CAS

123-31-9

3. HAZARDS IDENTIFICATION

Toxic

May cause cancer.

Harmful by inhalation, in contact with skin, and if swallowed.

4. FIRST-AID PROCEDURES

Inhalation: Remove subject to fresh air. Seek medical attention if necessary.

Eye and Skin Contact: Flush eyes or skin with copious amounts of water. Discard contaminated clothing. Consult a physician if irritation persists.

Swallowing: If conscious, wash out mouth with water. Seek medical attention.

5. FIRE FIGHTING PROCEDURES

Extinguishing Media: Foam, Alcohol Foam, CO₂, Dry Chemical, and Water/Fog

Unusual Fire and Explosion Hazards: Upon evaporation of water, Hydroquinone may emit toxic fumes under fire conditions.

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Contain spill and then clean-up with copious amounts of water. Avoid contact with skin and clothing.

7. EXPOSURE CONTROL (PERSONAL PROTECTIVE EQUIPMENT)

Inhalation: Adverse health effects from vapors and spray mists in poorly ventilated areas may include irritation of the mucous membranes of the nose, throat, respiratory tract and symptoms of headache and nausea.

Eye Contact: Direct contact with product may result in eye irritation.

Skin Contact: Prolonged and repeated contact with product may cause skin irritation.

Respiratory Protection: None required if good ventilation is maintained. Otherwise wear MSHA/NIOSH approved respirator suitable for vapor or mist concentrations encountered.

8. HANDLING AND STORAGE

Store at 2 - 8°C

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear solution

Melting or Freezing Point: <0°C/32°F (water)

Boiling Point: 100°C/212°F (water)

Solubility in Water: Dilutable

10. STABILITY AND REACTIVITY INFORMATION

Stable.

11. TOXICOLOGICAL INFORMATION

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide

Hazardous Polymerization: Will not occur

Incompatibility Materials to Avoid: Strong oxidizing agents, acids, and bases.

12. ECOLOGICAL INFORMATION

N/A

13. DISPOSAL GUIDELINES

Observe all Federal, State, and Local laws concerning health and pollution.

14. TRANSPORT INFORMATION

N/A

15. REGULATORY INFORMATION AND CONSIDERATIONS

This product is a mixture that may contain one or more hazardous chemicals. The hazardous ingredients listed are only those as required by 29 CFR 1910.1200 g 2.C1

16. OTHER

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