Safety Data Sheet

Revision Date: 7/31/2014

SDS #: SDS-10220-01

Silver Enhancer Kit for Microscopy

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
Silver Enhancer Kit for Microscopy	50-22-01

Kit Components:

Silver Enhancer Solution A (Microscopy)	50-22-03
Silver Enhancer Solution B (Microscopy)	50-22-04

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-10205-01

Silver Enhancer Solution A (Microscopy)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	**Product Code**
Silver Enhancer Solution A (Microscopy)	50-22-03

Hazardous Reagent
Silver Enhancer Solution A (Microscopy)

Hazardous Reagent Product code
Catalog No. Listed Above

Recommended Use Reagent

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

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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)

2. HAZARD IDENTIFICATION

Hazard Type Health 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

Hazard Statement
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H360D: May damage the unborn child.

Precautionary Statement
P260: Do not breathe dust/fume/ gas/mist/vapours/spray.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340:

Symbols of Danger GHS05 GHS08 GHS07: Danger

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

Component	CHEMICAL	% Weight	CAS #:
Silver Enhancer Solution A (Microscopy)	Proprietary Ingredient 1	<3.5%	Proprietary (Classifie

Classification

Acute toxicity, Category 4, oral; H302
Skin corrosion, Category 1C; H314
Reproductive toxicity, Category 1B; H360D

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.

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.

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:** ~9.0

Data for 100% Hazardous Chemical

Boiling Point: Not Available	Melting point: 89°C	Relative density (water = 1): 1.03g/cm³	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, mm2/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	Data for 100% Proprietary Component: Hazard to waters.
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: 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

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 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: None Listed

State Right to Know Act

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

International Inventories

Chemical Name	Proprietary Ingredient 1
TSCA	Listed
DSL	Listed
NDSL	Not Listed
EINECS	Listed
CHINA	Listed
KECL	Listed
JAPAN:	Listed
AICS	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
Risk Phrases	H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H360D: May damage the unborn child.
Safety Phrases	P260: Do not breathe dust/fume/ gas/mist/vapours/spray. P264: Wash skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P304 + P340:
Symbols and Indications of Danger	GHS05 GHS08 GHS07: Danger
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

Safety Data Sheet

Revision Date: 9/15/2014

SDS # SDS-10204-01

Silver Enhancer Solution B (Microscopy)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
Silver Enhancer Solution B (Microscopy)	50-22-04
Silver Enhancer Solution B (Membrane)	50-22-06

Hazardous Reagent
Silver Enhancer Solution B (Microscopy)

Hazardous Reagent Product code
Catalog No. Listed Above

Recommended Use Reagent

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)

2. HAZARD IDENTIFICATION

Hazard Type Health Hazard.

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

Classification
Carcinogenicity, Category 2; H351
Germ cell mutagenicity, Category 2; H341
Acute toxicity, Category 4, oral; H302
Serious eye damage, Category 1; H318
Skin sensitisation, Category 1; H317
Hazardous to the aquatic environment, Acute Category 1; H400

Hazard Statement
H351: Suspected of causing cancer.
H341: Suspected of causing genetic defects.
H302: Harmful if swallowed.
H318: Causes serious eye damage.
H317: May cause an allergic skin reaction.
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 inhalation, through the skin and by ingestion.
INHALATION RISK:	A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.
SHORT-TERM EXPOSURE	The substance is severely irritating to the eyes . The substance is irritating to the skin and the respiratory tract .
LONG-TERM EXPOSURE:	Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the eyes and skin , resulting in discolouration of the conjunctiva and cornea and skin depigmentation. This substance is possibly carcinogenic to humans.

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

EYES: Redness. Pain. Blurred vision.

SKIN: Redness.

INHALATION: Cough. Laboured breathing.

INGESTION: Dizziness. Headache. Nausea. Shortness of breath. Convulsions. Vomiting. Ringing in the ears.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CHEMICAL	% Weight	CAS #:
Silver Enhancer Solution B (Microscopy)	Hydroquinone	0.6%	123-31-9

Classification

Carcinogenicity, Category 2; H351
Germ cell mutagenicity, Category 2; H341
Acute toxicity, Category 4, oral; H302
Serious eye damage, Category 1; H318
Skin sensitisation, Category 1; H317
Hazardous to the aquatic environment, Acute Category 1; H400

4. FIRST AID MEASURES

Data for 100% Hazardous Chemical

Ingestion First Aid:	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
Inhalation First Aid:	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin First Aid:	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Eye First Aid:	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

5. FIRE FIGHTING MEASURES

Data For 100% Hazardous Chemical

Fire Acute Hazard:	Fire Prevention:	Fire Fighting:
Combustible.	NO open flames.	Powder, water spray, foam, 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.	Not Available

CHEMICAL DANGERS: Reacts violently with sodium hydroxide.

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

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Respiratory protection:
In an emergency (e.g.: unintentional release of the substance) respiratory protection must be worn. Consider the maximum period for wear.
Respiratory protection: Particle filter P2 or P3, colour code white.
Perhaps also necessary for improved protection:
Respiratory protection: Combination filter A - P2 or A - P3, colour code brown-white.
Use insulating device for concentrations above the usage limits for filter devices, for oxygen concentrations below 17% volume, or in circumstances which are unclear.

Eye protection:
Sufficient eye protection must be worn.
Wear chemical safety goggles.

Hand protection:
Use protective gloves. The glove material must be sufficiently impermeable and resistant to the substance. Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care.
Skin protection cremes do not protect sufficiently against the substance.
The following materials are suitable for protective gloves (Permeation time >= 8 hours):
Natural rubber/Natural latex - NR (0,5 mm) (use non-powdered and allergen free products)
Polychloroprene - CR (0,5 mm)
Nitrile rubber/Nitrile latex - NBR (0,35 mm)
Butyl rubber - Butyl (0,5 mm)
Fluoro carbon rubber - FKM (0,4 mm)
Polyvinyl chloride - PVC (0,5 mm)

The times listed are suggested by measurements taken at 22 °C and constant contact. Temperatures raised by warmed substances, body heat, etc. and a weakening of the effective layer thickness caused by expansion can lead to a significantly shorter breakthrough time. In case of doubt contact the gloves' manufacturer. A 1.5-times increase / decrease in the layer thickness doubles / halves the breakthrough time. This data only applies to the pure substance. Transferred to mixtures of substances, these figures should only be taken as an aid to orientation.

Environmental Precautions Should not be released into the environment. Severe hazard to waters. Inform the responsible authorities when only small quantities get into water, drainage, sewer, or the ground.

Method of Containment Contain spill and then clean-up with copious amounts of water.

Methods of Clean-up Wash spill site and ventilate area after pickup is complete.

Other Information Not Available

Data for 100% Hazardous Chemical

SPILLAGE DISPOSAL	Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environ

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 bases, food and feedstuffs . Store in an area without drain or sewer access.

8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

•INHALATION	Local exhaust or breathing protection.
•EYES	Safety goggles.
•SKIN	Protective gloves. Protective clothing.
•INGESTION	Do not eat, drink, or smoke during work. Wash hands before eating.

Engineering Controls Ensure adequate ventilation, especially in confined areas

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Solution

Physical State Liquid **pH:** 4.0 - 5.5

Data for 100% Hazardous Chemical

Boiling point: °C	Melting point: 172°C	Relative density (water = 1): 1.3	Solubility in water, g/100 ml at 15°C: 5.9	Vapour pressure, Pa at 20°C: 0.12	Relative vapour density (air = 1): 3.8
Relative density of the vapour/air-mixture at 20°C (air = 1): 1	Flash point: 165°C	Auto-ignition temperature: 515°C	Octanol/water partition coefficient as log Pow: 0.59		

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

Incompatibility Materials to Avoid Do not store with Strongly oxidizing substances.

Hazardous Decomposition Products Data for 100% Hydroquinone: Butadiene; carbon monoxide; aromatics

Hazardous Polymerization Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS:	Reacts violently with sodium hydroxide.
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% Hydroquinone: LD50 oral rat Value: 302 mg/kg Reference: National Technical Information Service. Vol. OTS0555537,
LD50 Dermal	No Data Available
LC50 Inhalation	No Data Available

Chronic Toxicity

Carcinogenicity	Data for 100% Hydroquinone: Carcinogenicity, Category 2; H351 - Suspected of causing cancer.
Irritation	Not Available
Corrosivity	Data for 100% Hydroquinone: Serious eye damage, Category 1; H318 Causes serious eye damage.
Sensitization	Data for 100% Hydroquinone: Skin sensitisation, Category 1; H317 May cause an allergic skin reaction.
Neurological Effects	No Data Available
Mutagenic Effects	Data for 100% Hydroquinone: Germ cell mutagenicity, Category 2; H341 Suspected of causing genetic defects.
Reproductive Effects	Not Available
Developmental Effects	Not Available
Target Organ Effects	The main intake pathways for hydroquinone (H.) proceed via the respiratory tract and through the skin
Other adverse effects	Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity	Data for 100% Hydroquinone: Hazardous to the aquatic environment, Acute Category 1; H400 Very toxic to aquatic life. LC50 Fish (96 hours) Minimum: 0,044 mg/l Maximum: 0,638 mg/l Median: 0,134 mg/l Study number: 4 Reference for median: DeGraeve, G.M., D.L. Geiger, J.S. Meyer, and H.L. Bergman 1980. Acute and Embryo-Larval Toxicity of Phenolic Compounds to Aquatic Biota. Arch.Environ.Contam.Toxicol. 9(5):557-568; Wellens, H. 1982. Comparison of the Sensitivity of Brachydanio rerio and Leuciscus idus by Testing the Fish Toxicity of Chemicals and Wastewaters. Z.Wasser-Abwasser-Forsch. 51(2):49-52 (GER) (ENG ABS)
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: 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: 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). Listed:
Hydroquinone CAS-No. 123-31-9

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

Listed: Hydroquinone CAS-No. 123-31-9

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: Not Listed

State Right to Know Act

Chemical Name	Hydroquinone
Massachusetts	Listed
New Jersey	Listed
Pennsylvania	Listed
New York	Listed
Rhode Island	Listed

International Inventories

Chemical Name	Hydroquinone
TSCA	Listed
DSL	Listed
NDSL	Not Listed
EINECS	Listed
CHINA	Listed
KECL	Listed
JAPAN:	Listed
AICS	Listed

EU Regulations

Annex I Index# Annex I Index# : 604-005-00-4
Substance Name in Annex 1 : 1,4-dihydroxybenzene

	hydroquinone quinol
Classification	Carcinogenicity, Category 2; H351 Germ cell mutagenicity, Category 2; H341 Acute toxicity, Category 4, oral; H302 Serious eye damage, Category 1; H318 Skin sensitisation, Category 1; H317 Hazardous to the aquatic environment, Acute Category 1; H400
Risk Phrases	H351: Suspected of causing cancer. H341: Suspected of causing genetic defects. H302: Harmful if swallowed. H318: Causes serious eye damage. H317: May cause an allergic skin reaction. 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	M=10
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