

Safety Data Sheet



Revision Date: 7/31/2014

HistoMark® BLACK

SDS #: SDS-10251-01

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

HistoMark® BLACK

Product Code

54-75-00

Kit Components:

DAB Substrate Solution	71-00-08
Peroxidase Solution	71-00-09
HISTO Blocking Solution	71-00-10
Histo Contrast Green Solution	71-00-11
Histo Enhance Black Solution	71-00-12

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: 7/25/2014

MSDS #: 10201

DAB Solution

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Product Code

DAB Substrate Solution

71-00-08

DAB Solution

71-00-46

Hazardous Reagent

DAB Solution

Hazardous Reagent Product code

Catalog No. Listed Above

Recommended Use Reagent

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

Phone #: 1-800-638-3167
Fax #: 1-301-948-169
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
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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 2A); H341
Acute toxicity, Category 4, oral; H302
Skin irritation, Category 2; H315
Eye irritation, Category 2; H319
Specific Target Organ Toxicity (single exposure), Category 3; H335

Hazard Statement

H351: Suspected of causing cancer.
H341: Suspected of causing genetic defects.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.

Precautionary Statement

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.

DAB Solution

P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P264: Wash skin thoroughly after handling.

Symbols of Danger

GHS08
 GHS07
 Danger

**Data for 100% Hazardous Chemical**

ROUTES OF EXPOSURE: The substance can be absorbed into the body 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; on spraying or dispersing, however, much faster.

SHORT-TERM EXPOSURE: The substance may cause effects on the kidneys, resulting in kidney impairment. The substance may cause effects on the central nervous system and liver by ingestion. Exposure by ingestion may result in death.

LONG-TERM EXPOSURE: Not Available

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

INGESTION: Abdominal pain. Nausea. Vomiting. Diarrhoea. Dizziness. Drowsiness. Confusion. Unconsciousness.

Direct contact with product may result in eye irritation.

Absorption through skin may occur. May cause irritation to the skin

May cause irritation to the respiratory tract.

May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CHEMICAL	% Weight	CAS #:
DAB Solution	Hydrochloric Acid	3.3%	7647-01-0
	3,3'-Diaminobenzidine	2.5%	7411-49-6
	2,2' -oxybisethanol diethylene glycol	80%	111-46-6

Classification

Carcinogenicity, Category 2; H351
 Germ cell mutagenicity (Category 2A); H341
 Acute toxicity, Category 4, oral; H302
 Skin irritation, Category 2; H315
 Eye irritation, Category 2; H319
 Specific Target Organ Toxicity (single exposure), Category 3; H335

4. FIRST AID MEASURES

Data for 100% Hazardous Chemical

Ingestion First Aid: Give one or two glasses of water to drink. Refer immediately for medical attention. See Notes. 007

Inhalation First Aid: Fresh air, rest.

Skin First Aid: Rinse skin with plenty of water or shower.

Eye First Aid: Rinse with plenty of water (remove contact lenses if easily possible).

5. FIRE FIGHTING MEASURES

Data For 100% Hazardous Chemical

Fire Acute Hazard: Combustible.	Fire Prevention: NO open flames.	Fire Fighting: Powder, alcohol-resistant foam, water spray, carbon dioxide .
Explosion Acute Hazard: Not Available	Not Available	Not Available
CHEMICAL DANGERS: Reacts violently with strong oxidants causing fire and explosion hazard. Attacks some forms of plastic.		
PHYSICAL DANGERS: Not Available		

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear a dust mask. Carefully sweep up, gather and remove. Avoid rising dust. Afterwards ventilate area and wash spill site.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. 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	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Methods of Clean-up	Wash away spilled liquid with plenty of water.
Other Information	Data for 100% Diethylene Glycol: Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance.

Data for 100% Hazardous Chemical

SPILLAGE DISPOSAL	Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking liquid in sealable containers. Wash away spilled liquid 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 room temperature. Data for 100% Diethylene Glycol: Dry. Well closed. Separated from strong oxidants.

Data for 100% Hazardous Chemical

STORAGE	Dry. Well closed. Separated from strong oxidants.
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8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

•INHALATION	Ventilation.
•EYES	Safety spectacles.
•SKIN	Protective gloves.
•INGESTION	Do not eat, drink, or smoke during work.

Engineering Controls	Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment: Eye/face protection - Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection - Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without
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DAB Solution

touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear Light brown solution

Physical State Liquid **pH:** < 2.0

Data for 100% Hazardous Chemical

Boiling point: 244 °C	Melting point: -6.5°C	Relative density (water = 1): 1.12 Temperature: 20 °C	Solubility in water: miscible	Vapour pressure, Pa at 20°C: 2.7	pH-VALUE: 6 - 8 Temperature: 20 °C Concentration: 200 g/l
Relative vapour density (air = 1): 3.7	Flash point: 124°C c.c.	Auto-ignition temperature: 229°C	Explosive limits, vol% in air: 1.6-10.8	Octanol/water partition coefficient as log Pow: -1.47	

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions

Incompatibility Materials to Avoid Strong oxidants.

Hazardous Decomposition Products Upon evaporation of water, toxic gases and vapors may be released if involved in a fire.

Hazardous Polymerization Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS:	Reacts violently with strong oxidants causing fire and explosion hazard. Attacks some forms of plastic.
PHYSICAL DANGERS:	Not Available

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 LD50 oral rat: 12600 mg/kg
Reference: Raw Material Data Handbook, Vol.1: Organic Solvents, 1974. Vol. 1, Pg. 25, 1974.

LD50 Dermal LD50 dermal rat/rabbit: 11900 mg/kg
Species: Rabbit
Reference: Raw Material Data Handbook, Vol.1: Organic Solvents, 1974. Vol. 1, Pg. 25, 1974.

LC50 Inhalation LC50 Fish (96 hours)
Minimum: 75200 mg/l
Maximum: 75200 mg/l
Median: 75200 mg/l
Study number: 1
Reference: Geiger, D.L., L.T. Brooke, and D.J. Call 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 5. Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior, Superior, WI :332 p.

Chronic Toxicity

Carcinogenicity Data for 100% 3,3'-Diaminobenzidine: May Cause Cancer

DAB Solution

Irritation	Data for 100% Diethylene Glycol: Eyes - rabbit Result: No eye irritation
Corrosivity	Data for 100% Diethylene Glycol: Skin - rabbit Result: No skin irritation (OECD Test Guideline 404)
Sensitization	Data for 100% Diethylene Glycol: Maximisation Test - guinea pig Result: Did not cause sensitisation on lab
Neurological Effects	Not Available
Mutagenic Effects	Data for 100% 3,3'-Diaminobenzidine: Suspected of causing genetic defects.
Reproductive Effects	Not Available
Developmental Effects	Not Available
Target Organ Effects	Data for 100% Diethylene Glycol: Kidneys, Central Nervous System and Liver
Other adverse effects	Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity	Data for 100% 2,2' -oxybisethanol diethylene glycol : Aquatic Toxicity: > 32,000 ppm/96 hr/mosquito fish/TLm/ fresh water Waterfowl Toxicity: Currently not available Biological Oxygen Demand (BOD): 6%, 5 days
Persistence/Degradability	Data for 100% 2,2' -oxybisethanol diethylene glycol : Readily Biodegradable
Mobility in Environmental Media	Data for 100% 2,2' -oxybisethanol diethylene glycol : Using a structure estimation method based on molecular connectivity indices(1), the Koc of diethylene glycol can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that diethylene glycol is expected to have very high mobility in soil. [(1) Meylan WM et al; Environ Sci Technol 26: 1560-67 (1992) (2) Swann RL et al; Res Rev 85: 17-28 (1983)] **PEER REVIEWED**
Bioaccumulation/ Accumulation	Data for 100% 2,2' -oxybisethanol diethylene glycol : An estimated BCF of 3 was calculated in fish for diethylene glycol(SRC), using an estimated log Kow of -1.5(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC). [(1) Meylan WM, Howard PH; J Pharm Sci 84: 83-92 (1995) (2) Meylan WM et al; Environ Toxicol Chem 18: 664-72 (1999) (3) Franke C et al; Chemosphere 29: 1501-14 (1994)] **PEER REVIEWED**

13. DISPOSAL MEASURES

Waste Disposal Method:	Observe all Federal, State and Local laws concerning health and pollution. Data for 100% 2,2' -oxybisethanol diethylene glycol : Collection of small amounts of substance: Place in a collection container for halogen-free organic solvents and solutions of halogen-free organic substances. Collection vessels must be clearly labelled with a systematic description of their contents and with the hazard symbol and the R and S phrases. Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal.
Contaminated Packaging:	Avoid contact with skin and clothing. Place contaminated packaging in a break proof outer vessel and dispose on in compliance with national and local regulations.
US EPA Waste Number:	EPA AEGL: Not listed

14. TRANSPORTATION MEASURES

DOT:	Hydrochloric acid Hazard Class/Division: 8 Identification Number: UN1789
IATA:	Not Available
ADR (road)/ RID (rail):	Not Available
IMDG (sea):	Not Available
General Transport Regulations	Data for 100% 2,2' -oxybisethanol diethylene glycol : Grades of Purity: Regular grade; polyester grade 7.2 Storage Temperature: Ambient

Inert Atmosphere: No requirement
 Venting: Open (flame arrester)
 IMO Pollution Category: D
 Ship Type: Data not available
 Barge Hull Type: Currently 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 (OSHA HCS).

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)

This product contains the following chemical or chemicals which are subject to the reporting requirements of the Clean Air Act, Section 112 HAPS: Hydrochloric Acid CAS 7647-01-0

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: None Listed

State Right to Know Act

Chemical Name	Hydrochloric Acid	3,3'-Diaminobenzidine	2,2' - oxybisethanol diethylene glycol
Massachusetts	Not Listed	Listed	Not Listed
New Jersey	Not Listed	Listed	Not Listed
Pennsylvania	Listed	Listed	Not Listed
New York	Not Listed	Listed	Not Listed
Rhode Island	Listed	Listed	Not Listed

International Inventories

Chemical Name	Hydrochloric Acid	3,3'-Diaminobenzidine	2,2' - oxybisethanol diethylene glycol
TSCA	Listed	Listed	Listed
DSL	Listed	Listed	Listed
NDSL	Not Listed	Not Listed	Not Listed
EINECS	Listed	Listed	Listed
CHINA	Listed	Listed	Listed
KECL	Listed	Listed	Not Listed
JAPAN:	Listed	Listed	Listed
AICS	Listed	Listed	Listed

EU Regulations

Annex I Index#	This product is a mixture. Classification is based on 2,2'-oxydiethanol: Annex 1 Index# 603-140-00-6, 100% and 3,3'-Diaminobenzidine (Diaminobenzidine Salt).
Classification	Carcinogenicity, Category 2; H351 Germ cell mutagenicity (Category 2A); H341 Acute toxicity, Category 4, oral; H302 Skin irritation, Category 2; H315 Eye irritation, Category 2; H319 Specific Target Organ Toxicity (single exposure), Category 3; H335
Risk Phrases	H351: Suspected of causing cancer. H341: Suspected of causing genetic defects. H302: Harmful if swallowed.

DAB Solution

H315: Causes skin irritation.
 H319: Causes serious eye irritation.
 H335: May cause respiratory irritation.

Safety Phrases

P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P281: Use personal protective equipment as required.
 P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P264: Wash skin thoroughly after handling.

Symbols and Indications of Danger

GHS08
 GHS07
 Danger

Specific Concentration Limits

2,2'-oxybisethanol diethylene glycol CAS 111-46-6: Not Available
 Data for Hydrochloric Acid CAS 7647-01-0:
 Skin Corr. 1B; H314: $C \geq 25\%$
 Skin Irrit. 2; H315: $10\% \leq C < 25\%$
 Eye Irrit. 2; H319: $10\% \leq C < 25\%$
 STOT SE 3; H335: $C \geq 10\%$
 3,3'-Diaminobenzidine CAS 7411-49-6: Not Available

Export and Import

This substance is not listed in the Annex I of Regulation (EC) No 689/2008.

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: 7/25/2014

Safety Data Sheet



Revision Date: 7/28/2014

Peroxidase Solution

SDS #: SDS-10321-01

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Peroxidase Solution

Product Code

71-00-09

Hazardous Reagent

None

Hazardous Reagent Product code

None

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:

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

2. HAZARD IDENTIFICATION

Hazard Type	GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment.
Principle Route of Exposure	Inhalation and Ingestion
Acute Effects: Eye:	Unlikely to cause eye irritation or injury
Acute Effects: Skin:	Unlikely to cause skin irritation or injury
Acute Effects: Inhalation:	No adverse health effects expected from inhalation. A nuisance-causing concentration of airborne particles can be reached quickly when dispersed.
Acute Effects: Ingestion:	Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. May cause gastrointestinal upset.

SDS #: SDS-10321-01

Chronic Effects: None Available

Additional Information Not Available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
Peroxidase Solution	Hydrogen Peroxide, 30%	<4%	7722-84-1

GHS Classification Not Applicable:
 The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment as per:
 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
 Regulation (EC) No 1272/2008

4. FIRST AID MEASURES

General Advice	Wash contaminated clothing before reuse. Consult a physician if irritation persists.
Oral Exposure	Rinse mouth.
Inhalation Exposure	Fresh air, rest.
Skin Exposure	Rinse skin with plenty of water or shower.
Eye Exposure	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

5. FIRE FIGHTING MEASURES

Extinguishing media	In case of fire in the surroundings: carbon dioxide, foam, powder, water spray.
Unusual Fire and Explosive Hazards	Not Available
Flash Point	Not Available
Autoignition Temperature	Not Available
Flammability Statement	Not Available
Specific hazards arising from the chemical	Not Available
Protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear appropriate personal protective clothing to prevent skin contact.
Environmental Precautions	No special environmental precautions required. Should not be released into the environment.
Method of Containment	Collect leaking and spilled liquid in sealable containers as far as possible.
Methods of Clean-up	Wash away remainder with plenty of water.
Other Information	Not Available

7. HANDLING AND STORAGE

Handling: Wear appropriate PPE. See section 8

Storage: Store tightly capped at 2 - 8°C.

8. EXPOSURE CONTROL

Respiratory Protection	Ventilation.
Eye Protection	Safety spectacles.
Skin Protection	Protective gloves. Protective clothing.
Ingestion	Do not eat, drink, or smoke during work.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear solution
Physical State	Liquid
Odor	Not Available
Odor Threshold	Not Available
pH	2.55 - 2.95
Boiling Point	Not Available
Evaporation Rate	Not Available
Vapor Density	Not Available
Vapor Pressure	Not Available
Relative Density	Not Available
Auto-Ignition Temperature	Not Available
Water Solubility	Dilutable
Flammability	Not Available
Flash Point	Not Available
Viscosity	Not Available
Oxidizing Properties	Not Available
Explosive Properties	Not Available
Additional Parameters	See Datasheet for other Product Information.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions
Conditions to avoid	Not Available
Incompatibility Materials to Avoid	Not Available
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Sulphur Oxides, Hydrogen Chloride gas.
Hazardous Polymerization	Will not occur
Possibility of hazardous reactions	Not Available

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.

SDS #: SDS-10321-01

LD50 Oral	No Data Available
LD50 Dermal	No Data Available
LC50 Inhalation	No Data Available

Chronic Toxicity

Carcinogenicity	There are no known carcinogenic chemicals in this product.
Irritation	No Data Available
Corrosivity	No Data Available
Sensitization	No Data Available
Neurological Effects	No Data Available
Mutagenic Effects	No Data Available
Reproductive Effects	No Data Available
Developmental Effects	No Data Available
Target Organ Effects	No Data Available
Other adverse effects	Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity	Not Available
Persistence/Degradability	Not Available
Mobility in Environmental Media	Not Available
Bioaccumulation/ Accumulation	Not Available

13. DISPOSAL MEASURES

Waste Disposal Method:	Observe all Federal, State and Local laws concerning health and pollution.
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:	Not Available
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 (OSHA HCS).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Hydrogen peroxide (Conc.> 52%) CAS: 7722-84-1

SDS #: SDS-10321-01

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 Hydrogen Peroxide,
30%

Massachusetts Listed

New Jersey Listed

Pennsylvania Listed

New York Listed

Rhode Island Listed

International Inventories

Chemical Name Hydrogen Peroxide,
30%

TSCA Listed

DSL Listed

NDSL Not Listed

EINECS Listed

CHINA Listed

KECL Listed

JAPAN: Listed

AICS Listed

EU Regulations

Annex I Index# 100% Hydrogen Peroxide, 30%: 008-003-00-9

Classification Not Applicable:
The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment as per:
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Regulation (EC) No 1272/2008

Risk Phrases H271: May cause fire or explosion; strong oxidiser
H332: Harmful if inhaled
H302: Harmful if swallowed
H314: Causes severe skin burns and eye damage

Safety Phrases P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P220: Keep/Store away from clothing/.../combustible materials.
P221: Take any precaution to avoid mixing with combustibles...

Symbols and Indications of Danger GHS03
GHS05
GHS07
Dgr: Danger

Specific Concentration Limits Concentration Limits for Hydrogen Peroxide, 30% CAS: 7722-84-1 Ox. Liq. 1; H271: C
≥ 70 %****
Ox. Liq. 2; H272: 50 % ≤ C < 70 % *****
Skin Corr. 1A; H314: C ≥ 70 %
Skin Corr. 1B; H314: 50 % ≤ C < 70 %
Skin Irrit. 2; H315: 35 % ≤ C < 50 %
Eye Dam. 1; H318: 8 % ≤ C < 50 %
Eye Irrit. 2; H319: 5 % ≤ C < 8 %

SDS #: SDS-10321-01

Export and Import

This substance is not listed in the Annex I of Regulation (EC) No 649/2012.

European Priority List

100% Hydrogen Peroxide, 30% CAS: 7722-84-1 | European Priority Lists and Risk Assessment (Council Regulation (EEC) No 793/93) Information: Rapporteur : Finland
Priority List# : 2
ECB# : 022

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: 7/28/2014



Safety Data Sheet

Revision Date: 6/11/2015

SDS # SDS-10325-02

HISTO Blocking Solution

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

HISTO Blocking Solution

Product Code

71-00-10

Hazardous Reagent

HISTO Blocking Solution

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

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

GHS Classification

Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318

Hazard Statements:

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

Precautionary Statements:

P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated

SDS # SDS-10325-02

HISTO Blocking Solution

clothing. Rinse skin with water/ shower.

Symbols and Indications of Danger:GHS05
Dgr: Danger**Principle Route of Exposure** Not Available**Acute Effects: Eye:** May cause redness and irritation**Acute Effects: Skin:** Dry skin and Irritation may occur**Acute Effects: Inhalation:** May be harmful if inhaled in very large quantities.**Acute Effects: Ingestion:** May be harmful if swallowed.**Chronic Effects:** Not Available**Additional Information**

The product contains no substances which at their given concentration, are considered to be hazardous to health

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
HISTO Blocking Solution	Periodic Acid	< 4%	10450-60-9

GHS ClassificationSkin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318

4. FIRST AID MEASURES

General Advice	Wash contaminated clothing before reuse. Consult a physician if irritation persists.
Oral Exposure	Do Not induce vomiting. Rinse mouth. Refer for medical attention.
Inhalation Exposure	Remove subject to fresh air. Seek medical attention if necessary.
Skin Exposure	Rinse with copious amounts of water
Eye Exposure	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

5. FIRE FIGHTING MEASURES

Extinguishing media	Water spray. Alcohol-resistant foam. Dry powder. Carbon dioxide
Unusual Fire and Explosive Hazards	Hydrogen Iodide
Flash Point	Not Available
Autoignition Temperature	Not Available

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HISTO Blocking Solution

Flammability Statement Not Available

Specific hazards arising from the chemical Not Available

Protective equipment and precautions for firefighters In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Wear appropriate personal protective clothing to prevent skin contact. Remove: Work clothing that becomes wet should be immediately removed.

Environmental Precautions Should not be released into the environment.

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

Methods of Clean-up Clean up of spills requires no special equipment or procedures. Clean with copious amounts of water.

Other Information Not Available

7. HANDLING AND STORAGE

Handling: Wear appropriate PPE. Refer to section 8.

Storage: Store at 2 – 8°C.

8. EXPOSURE CONTROL

Respiratory Protection Ventilation, local exhaust, or breathing protection.

Eye Protection Safety goggles.

Skin Protection Protective gloves. Protective clothing.

Ingestion Do not eat, drink, or smoke during work.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear Solution

Physical State Liquid

Odor Not Available

Odor Threshold Not Available

pH <2.0

Boiling Point Not Available

Evaporation Rate Not Available

Vapor Density Not Available

Vapor Pressure Not Available

Relative Density Not Available

Auto-Ignition Temperature Not Available

Water Solubility Dilutable

Flammability Not Available

Flash Point Not Available

Viscosity Not Available

Oxidizing Properties Not Available

Explosive Properties Not Available

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HISTO Blocking Solution

Additional Parameters

See Datasheet for other Product Information.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions
Conditions to avoid	Not Available
Incompatibility Materials to Avoid	Strong reducing agents, Powdered metals, Strong bases, Dimethyl Sulfoxide
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, Hydrogen Iodide.
Hazardous Polymerization	Will not occur
Possibility of hazardous reactions	Not Available

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	No Data Available
LD50 Dermal	No Data Available
LC50 Inhalation	No Data Available

Chronic Toxicity

Carcinogenicity	There are no known carcinogenic chemicals in this product.
Irritation	No Data Available
Corrosivity	No Data Available
Sensitization	No Data Available
Neurological Effects	No Data Available
Mutagenic Effects	No Data Available
Reproductive Effects	No Data Available
Developmental Effects	No Data Available
Target Organ Effects	No Data Available
Other adverse effects	100% Data for Periodic Acid: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes and skin. Causes Cough, Shortness of breath, Headache and Nausea.

12. ECOLOGICAL MEASURES

Ecotoxicity	Not Available
Persistence/Degradability	Not Available
Mobility in Environmental Media	Not Available
Bioaccumulation/Accumulation	Not Available

13. DISPOSAL MEASURES

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HISTO Blocking Solution

Waste Disposal Method: Observe all Federal, State and Local laws concerning health and pollution.

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: 3085 Class: 5.1 (8) Packing group: II
 Proper shipping name: Oxidizing solid, corrosive, n.o.s. (Orthoperiodic acid)
 Marine pollutant: No
 Poison Inhalation Hazard: No

IATA: UN number: 3085 Class: 5.1 (8) Packing group: II
 Proper shipping name: Oxidizing solid, corrosive, n.o.s. (Orthoperiodic acid)

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

IMDG (sea): UN number: 3085 Class: 5.1 (8) Packing group: II EMS-No: F-A, S-Q
 Proper shipping name: OXIDIZING SOLID, CORROSIVE, N.O.S. (Orthoperiodic acid)
 Marine pollutant: No

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 q 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)

This product contains no chemical or chemicals which are subject to the reporting requirements of the Clean Air Act, Section 112 HAPS

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: None Listed

State Right to Know Act

Chemical Name	Periodic Acid
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Massachusetts	Not Listed
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New Jersey	Not Listed
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Pennsylvania	Not Listed
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New York	Not Listed
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Rhode Island	Not Listed
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International Inventories

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

EU Regulations

Annex I Index# Not Available

Classification Skin corrosion (Category 1B), H314
 Serious eye damage (Category 1), H318

Hazard Statements
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.

Precautionary Statements
 P260 Do not breathe dust or mist.
 P264 Wash skin thoroughly after handling.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Symbols and Indications of Danger GHS05
 Dgr: Danger

Specific Concentration Limits Not Available

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.

MATERIAL SAFETY DATA SHEET



Issue Date: 22 March, 2006

1. IDENTIFICATION

Enhance BLACK Buffer Solution

CATALOG NO.

71-00-12

2. COMPOSITION AND INGREDIENTS INFORMATION

<u>Reagent</u>	<u>Weight %</u>
Sodium Acetate	7.38

CAS #
6131-90-4

3. HAZARDS IDENTIFICATION

Eye and skin irritant.

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. Wash contaminated clothing before reuse. Consult a physician if irritation persists.

5. FIRE FIGHTING PROCEDURES

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

Unusual Fire and Explosion Hazards: 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: May be harmful if inhaled in very large quantities.

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 refrigerated at 2 - 8°C.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, light pink 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

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

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.