

Safety Data Sheet



Revision Date: 7/31/2014

SDS #: SDS-10211-01

HisDetector™ Western Blot Kit, HRP Chemiluminescent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

HisDetector™ Western Blot Kit, HRP Chemiluminescent

Product Code

24-00-02

Kit Components:

LumiGLO® Chemiluminescent Substrate A	50-59-00
LumiGLO Substrate B	50-60-00
Tris-Buffered Saline Tween Wash Solution	50-63-16
BSA POWDER, 10GM, NSS	51-61-00
HisDetector™ Nickel-HRP	24-01-02

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: 7/26/2014

Tris-Buffered Saline Tween Wash Solution

SDS #: SDS-10199-01

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Tris-Buffered Saline Tween Wash Solution

Product Code

50-63-16

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

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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	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>
Tris-Buffered Saline Tween Wash Solution	Not Applicable	Not Applicable	Not Applicable

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
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4. FIRST AID MEASURES

General Advice	Wash contaminated clothing before reuse. Consult a physician if irritation persists
Oral Exposure	Rinse mouth. Refer for medical attention.
Inhalation Exposure	Remove subject to fresh air. Seek medical attention if necessary.
Skin Exposure	Flush skin 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	Use extinguishing media appropriate for surrounding fire.
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	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	Avoid contact with skin, eyes and clothing.
Environmental Precautions	No special environmental precautions required. 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

SDS #: SDS-10199-01

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	Colorless Solution
Physical State	Liquid.
Odor	Not Available
Odor Threshold	Not Available
pH	7.25-7.55
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.

LD50 Oral	No Data Available
LD50 Dermal	No Data Available

SDS #: SDS-10199-01

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). 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)

SDS #: SDS-10199-01

This product contains no chemicals which are subject to the reporting requirements of the Clean Air Act.

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: Not Listed

State Right to Know Act

Chemical Name **Not Applicable**

Massachusetts Not Applicable

New Jersey Not Applicable

Pennsylvania Not Applicable

New York Not Applicable

Rhode Island Not Applicable

International Inventories

Chemical Name **Not Applicable**

TSCA Not Applicable

DSL Not Applicable

NDSL Not Applicable

EINECS Not Applicable

CHINA Not Applicable

KECL Not Applicable

JAPAN: Not Applicable

AICS Not Applicable

EU Regulations

Annex I Index# Not Applicable

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 Not Applicable

Safety Phrases Not Applicable

Symbols and Indications of Danger Not Applicable

Specific Concentration Limits Not Applicable

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: 7/26/2014

Safety Data Sheet



Revision Date: 6/30/2014

LumiGLO® Chemiluminescent Substrate A

SDS #: SDS-10295-01

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
LumiGLO® Chemiluminescent Substrate A	50-59-02
LumiGLO® Chemiluminescent Substrate A	50-59-01
LumiGLO® Chemiluminescent Substrate A	50-59-00

Hazardous Reagent

LumiGLO® Chemiluminescent Substrate A

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
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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	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	The substance can be absorbed into the body by inhalation, through the skin and by ingestion.
Acute Effects: Eye:	May cause redness and blurred vision.
Acute Effects: Skin:	Dry skin and Irritation may occur
Acute Effects: Inhalation:	Headache and Nausea may occur.
Acute Effects: Ingestion:	Nausea, Vomiting and Drowsiness may occur
Chronic Effects:	None 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>
LumiGLO® Chemiluminescent Substrate A	Dimethylsulfoxide	≤ 3.0%	67-68-5

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
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4. FIRST AID MEASURES

General Advice	Wash contaminated clothing before reuse.
Oral Exposure	Do not induce vomiting. Refer for medical attention.
Inhalation Exposure	Remove subject to fresh air. Seek medical attention if necessary.
Skin Exposure	Remove contaminated clothes. Rinse and then wash skin with water and soap. Seek medical attention if irritation persists.
Eye Exposure	First rinse with plenty of water for several minutes (remove contact lenses if easily possible). Seek medical attention if irritation persists.

5. FIRE FIGHTING MEASURES

Extinguishing media	Foam, Alcohol Foam, CO ₂ , Dry Chemical and Water/Fog
Unusual Fire and Explosive Hazards	May emit toxic fumes under fire conditions.
Flash Point	Not Available
Autoignition Temperature	Not Applicable
Flammability Statement	Not Applicable
Specific hazards arising from the chemical	May emit toxic fumes under fire conditions. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
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	Avoid contact with skin and clothing.
Environmental Precautions	Not Available
Method of Containment	Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place.
Methods of Clean-up	Clean-up with copious amounts of water.
Other Information	Not Applicable

7. HANDLING AND STORAGE

Handling: Handle in accordance with good industrial hygiene and safety practice.

Storage: Store at room temperature. Separated from strong oxidants.

8. EXPOSURE CONTROL

Respiratory Protection None required if good ventilation is maintained. Otherwise wear MSHA/NIOSH approved respirator suitable for vapor or mist concentrations encountered. May be harmful if inhaled in very large quantities.

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, Faint Yellow Colored Solution

Physical State Liquid

Odor Not Available

Odor Threshold Not Available

pH Not Available

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 Not Available

10. STABILITY AND REACTIVITY

Chemical Stability Stable.

Conditions to avoid Not Available

Incompatibility Materials to Avoid Other strong oxidizing agents, acid chlorides, acid anhydrides

Hazardous Decomposition Products Upon evaporation of water, may emit carbon monoxide, carbon dioxide, SO X

Hazardous Polymerization Will not occur

Possibility of hazardous reactions Not Applicable

11. TOXICOLOGY MEASURES

Acute Toxicity

SDS #: SDS-10295-01

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	Not Available
LD50 Dermal	Not Available
LC50 Inhalation	Not Available

Chronic Toxicity

Carcinogenicity	Not Available
Irritation	Yes. May occur
Corrosivity	Not Available
Sensitization	Not Available
Neurological Effects	Not Available
Mutagenic Effects	Not Available
Reproductive Effects	Not Available
Developmental Effects	Not Available
Target Organ Effects	Not 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).

SDS #: SDS-10295-01

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 Available

State Regulations**California Proposition 65:**

This product contains the following Proposition 65 chemicals: Not Listed

State Right to Know Act

Chemical Name	Dimethylsulfoxide
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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	Dimethylsulfoxide
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TSCA	Listed
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DSL	Not Listed
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NDSL	Listed
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EINECS	Listed
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CHINA	Listed
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KECL	Listed
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JAPAN:	Listed
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AICS	Listed
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EU Regulations

Annex I Index#	Not Applicable
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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
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Risk Phrases	Not Applicable
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Safety Phrases	Not Applicable
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Symbols and Indications of Danger	Not Applicable
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Specific Concentration Limits	Not Applicable
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Export and Import	This substance is not listed in the Annex I of Regulation (EC) No 649/2012.
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European Priority List	This substance is not listed in the Annex I of Regulation (EC) No 689/2008.
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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: 6/30/2014

Safety Data Sheet



Revision Date: 7/21/2014

LumiGLO Substrate B

SDS #: SDS-10137-02

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
LumiGLO Substrate B	50-60-00
	50-60-02
	50-60-01

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	Not Hazardous. 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	Not Applicable
Acute Effects: Eye:	Not Applicable
Acute Effects: Skin:	Not Applicable
Acute Effects: Inhalation:	Not Applicable
Acute Effects: Ingestion:	Not Applicable
Chronic Effects:	Not Applicable
Additional Information	Not Applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
LumiGLO Substrate B	Not Applicable	Not Applicable	Not Applicable

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
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4. FIRST AID MEASURES

General Advice	Not Applicable
Oral Exposure	Rinse mouth
Inhalation Exposure	Fresh air, rest.
Skin Exposure	with soap and water. Wash contaminated clothing before reuse.
Eye Exposure	Flush with copious amounts of water or eyewash saline for at least 15 minutes.

5. FIRE FIGHTING MEASURES

Extinguishing media	Use extinguishing media appropriate for surrounding fire.
Unusual Fire and Explosive Hazards	Not Applicable
Flash Point	Not Applicable
Autoignition Temperature	Not Applicable
Flammability Statement	Not Applicable
Specific hazards arising from the chemical	Not Applicable
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	Avoid contact with skin, eyes and clothing.
Environmental Precautions	Not Applicable
Method of Containment	Containment of spills requires no special equipment or procedures. Cover with absorbent.
Methods of Clean-up	Clean up of spills requires no special equipment or procedures. Clean with copious amounts of water.
Other Information	Not Applicable

7. HANDLING AND STORAGE

Handling:	Wear appropriate PPE.
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SDS #: SDS-10137-02

Storage: Store at 2 – 8°C.

8. EXPOSURE CONTROL

Respiratory Protection	None required if good ventilation is maintained. Otherwise wear MSHA/NIDSH approved respirator suitable for vapor or mist concentrations encountered.
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, Colorless Solution. Relatively free of particulate matter
Physical State	Liquid
Odor	Not Applicable
Odor Threshold	Not Applicable
pH	Not Applicable
Boiling Point	Not Applicable
Evaporation Rate	Not Applicable
Vapor Density	Not Applicable
Vapor Pressure	Not Applicable
Relative Density	Not Applicable
Auto-Ignition Temperature	Not Applicable
Water Solubility	Dilutable
Flammability	Not Applicable
Flash Point	Not Applicable
Viscosity	Not Applicable
Oxidizing Properties	Not Applicable
Explosive Properties	Not Applicable
Additional Parameters	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions
Conditions to avoid	Not Available
Incompatibility Materials to Avoid	Not Applicable
Hazardous Decomposition Products	Not Applicable
Hazardous Polymerization	Will not occur
Possibility of hazardous reactions	Not Applicable

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	Not Available
LD50 Dermal	Not Available
LC50 Inhalation	Not Available

SDS #: SDS-10137-02

Chronic Toxicity

Carcinogenicity	Not Available
Irritation	Not Available
Corrosivity	Not Available
Sensitization	Not Available
Neurological Effects	Not Available
Mutagenic Effects	Not Available
Reproductive Effects	Not Available
Developmental Effects	Not Available
Target Organ Effects	Not Available
Other adverse effects	Not Available

12. ECOLOGICAL MEASURES

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

13. DISPOSAL MEASURES

Waste Disposal Method:	Normal disposal with copious amounts of water. Observe all Federal, State and Local environmental regulations.
Contaminated Packaging:	Not Applicable
US EPA Waste Number:	Not Applicable

14. TRANSPORTATION MEASURES

DOT:	Not Available
IATA:	Not Available
ADR (road)/ RID (rail):	Not Available
IMDG (sea):	Not Available
General Transport Regulations	Not Applicable

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 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 Available

SDS #: SDS-10137-02

State Regulations**California Proposition 65:**

This product contains the following Proposition 65 chemicals: Not Listed

State Right to Know Act**Chemical Name** Not Applicable**Massachusetts** Not Applicable**New Jersey** Not Applicable**Pennsylvania** Not Applicable**New York** Not Applicable**Rhode Island** Not Applicable**International Inventories****Chemical Name** Not Applicable**TSCA** Not Applicable**DSL** Not Applicable**NDSL** Not Applicable**EINECS** Not Applicable**CHINA** Not Applicable**KECL** Not Applicable**JAPAN:** Not Applicable**AICS** Not Applicable**EU Regulations****Annex I Index#**

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 Not Applicable**Safety Phrases** Not Applicable**Symbols and Indications of Danger** Not Applicable**Specific Concentration Limits** Not Applicable**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 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: 7/21/2014

Safety Data Sheet



Revision Date: 6/19/2015

SDS # SDS-10237-02

HisDetector™ Nickel-HRP

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
HisDetector™ Nickel-HRP Diluent Buffer	24-02-00
HisDetector™ Nickel-HRP	24-01-02

Hazardous Reagent
HisDetector™ Nickel-HRP

Hazardous Reagent Product code
Catalog No. listed above

Recommended Use Reagent

Contact Manufacturer KPL, Inc.
910 Clopper Road
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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 and Environmental Hazard

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

Classification Acute toxicity, Category 3, dermal *; H311
Skin sensitisation, Category 1; H317
Acute toxicity, Category 3, inhalation; H331
Carcinogen; H351

Hazard Statement H311: Toxic in contact with skin
H317: May cause an allergic skin reaction.
H331: Toxic if inhaled
H351: May cause cancer by inhalation.

Precautionary Statement P201: Obtain special instructions before use.
P261: Avoid breathin mist/ vapours/ spray.
P273: Avoid release to the environment.
P280: Wear protective gloves.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308+P313: IF exposed or concerned: Get medical advice/attention.

Symbols of DangerGHS08
GHS07
GHS09
Danger**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:	Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.
SHORT-TERM EXPOSURE	The substance is irritating to the eyes, skin and respiratory tract.
LONG-TERM EXPOSURE:	Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation may cause asthma. Repeated or prolonged inhalation of of the aerosol may cause effects on the lungs. The substance may have effects on the nasal sinuses. This may result in inflammation and ulceration. This substance is carcinogenic to humans.

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

EYE: Redness.

SKIN: Redness.

INHALATION: Cough. Sore throat.

INGESTION: Abdominal pain. Dizziness. Headache. Nausea. Vomiting.

Data for 100% Glycerol: Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly on spraying.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
HisDetector™ Nickel-HRP	Glycerol	40%	56-81-5
	Nickel Sulphate Hexahydrate	<0.1%	10101-97-0
	Triethylamine	<0.1%	121-44-8

Classification

Acute toxicity, Category 3, dermal *; H311
 Skin sensitisation, Category 1; H317
 Acute toxicity, Category 3, inhalation; H331
 Carcinogen; H351

4. FIRST AID MEASURES

Data for 100% Hazardous Chemical

Ingestion First Aid:	Rinse mouth. Give one or two glasses of water to drink. Refer 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.
Eye First Aid:	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

5. FIRE FIGHTING MEASURES

Data For 100% Hazardous Chemical

Fire Acute Hazard: Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.	Fire Prevention: Not Available	Fire Fighting: In case of fire in the surroundings, use appropriate extinguishing media.
Explosion Acute Hazard:		
Not Available	Not Available	Not Available
CHEMICAL DANGERS: Decomposes at 848°C. This produces toxic fumes of sulfur trioxide and nickel monoxide. The solution in water is a weak acid.		
PHYSICAL DANGERS: Not Available		

Data for 100% Glycerol: In case of fire: keep drums, etc., cool by spraying with water.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin and clothing.
Environmental Precautions	Not Applicable
Method of Containment	Collect leaking liquid in covered containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place.
Methods of Clean-up	Clean-up with copious amounts of water.
Other Information	Not Applicable

Data for 100% Hazardous Chemical

Spillage Disposal	Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. Vacuum spilled material with specialist equipment. Carefully collect remainder. Then store and dispose.
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7. HANDLING AND STORAGE

Handling:	Wear appropriate PPE.
Storage:	Store at 2-8°C. refrigerated. Separated from strong oxidants.

Data for 100% Hazardous Chemical

Storage	Not Available
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8. EXPOSURE CONTROL

Data for 100% Hazardous Chemical

INHALATION	Use ventilation (not if powder), local exhaust or breathing protection.
EYE	Wear safety spectacles, face shield or eye protection in combination with breathing protection if powder.
SKIN	Protective gloves. Protective clothing.
INGESTION	Do not eat, drink, or smoke during work.

Engineering Controls Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless or Pale Yellow Solution.	
Physical State	Liquid	pH: Not Available

Data for 100% Hazardous Chemical

Decomposes at
840°C Density: 3.7
g/cm³ Solubility in
water, g/100ml at 0°C:
29.3

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal condition
Incompatibility Materials to Avoid	Strong oxidizing agents and strong bases
Hazardous Decomposition Products	Carbon Monoxide, Carbon Dioxide, sulphur trioxide, nickel oxide , tetraethyl hydrazine, butane, methane, nitrogen, nitrous gases.
Hazardous Polymerization	Will not occur

Data for 100% Hazardous Chemical

CHEMICAL DANGERS:	Decomposes at 848°C. This produces toxic fumes of sulfur trioxide and nickel monoxide. The solution in water is a weak acid.
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	Data for 100% Glycerol: LD50 oral rat: 12600 mg/kg Reference: Federation Proceedings, Federation of American Societies for Experimental Biology. Vol. 4, Pg. 142, 1945. Data for 100% Triethylamine: LD50 oral rat Value: 460 mg/kg Reference: AMA Archives of Industrial Hygiene and Occupational Medicine. Vol. 4, Pg. 119, 1951. Data for 100% Nickel Sulfate: LD50 oral rat Value: 264 mg/kg Reference: Acute Toxicity Data. Journal of the American College of Toxicology, Part B. Vol. 1, Pg. 685, 1992.
LD50 Dermal	Data for 100% Triethylamine: LD50 dermal Species: Rabbit Value: 415 mg/kg Reference: AMA Archives of Industrial Hygiene and Occupational Medicine. Vol. 4, Pg. 119, 1951. Data for 100% Glycerol: LD50 dermal rat/rabbit: > 10000 mg/kg Species: Rabbit Reference: BIOFAX Industrial Bio-Test Laboratories, Inc., Data Sheets. Vol. 9-4/1970
LC50 Inhalation	Not Available

Chronic Toxicity

Carcinogenicity	Data for 100% Nickel Sulfate: Carcinogenicity, Category 1A; H350i May cause cancer by inhalation
Irritation	H311: Toxic in contact with skin
Corrosivity	Not Available
Sensitization	Skin sensitisation, Category 1; H317
Neurological Effects	Not Available
Mutagenic Effects	Data for 100% Nickel Sulphate Hexahydrate: Possible risk of irreversible effects
Reproductive Effects	Data for 100% Nickel Sulphate Hexahydrate: May cause harm to the unborn child
Developmental Effects	Not Available
Target Organ Effects	Respiratory Tract, Skin, Gastrointestinal Tract.
Other adverse effects	Not Available

12. ECOLOGICAL MEASURES

Ecotoxicity	Data for 100% Nickel Sulfate Ecotoxic in the aquatic environment: LC50 Fish (96 hours) Minimum: 1,28 mg/l Maximum: 71,5 mg/l Median: 14,7 mg/l Study number: 34 Reference for median: Khangarot, B.S. 1981. Lethal Effects of Zinc and Nickel on Freshwater Teleosts. Acta Hydrochim.Hydrobiol. 9(3):297-302; Anderson, D.R. 1981. The Combined Effects of Nickel, Chlorine and Temperature on the Mortality of Rainbow Trout, Salmo gairdneri. Ph.D.Thesis, University of Washington, Seattle, WA :202 p. Data for 100% Nickel Sulfate: LC50 Crustaceans (48 hours) Minimum: 0,697 mg/l Maximum: 255 mg/l Median: 2,72 mg/l Study number: 21 Reference for median: Lind, D., K. Alto, and S. Chatterton 1978. Regional Copper-Nickel Study. Draft Report, Minnesota Environmental Quality Board St.Paul, MN :54 Data for 100% Nickel Sulfate: EC50 Algae (72 or 96 hours) Test duration: 72 hours Minimum: 6,03 mg/l Maximum: 6,03 mg/l Median: 6,03 mg/l Study number: 1 Reference for median: Azeez, P.A., and D.K. Banerjee 1991. Nickel Uptake and Toxicity in Cyanobacteria. Toxicol.Enviro.Chem. 30:43-50 Data for 100% Glycerol: Toxicity threshold (cell multiplication inhibition test) Algae (Microcystis aeruginosa) 2900 mg/l ; Protozoa (Entosiphon sulcatum) 3200 mg/l ; LC50 Goldfish >5000 mg/l/24 hr - modified ASTM D 1345 [Verschuere, K. Handbook of Environmental Data of Organic Chemicals. 2nd ed. New York, NY: Van Nostrand Reinhold Co., 1983., p. 695]
Persistence/Degradability	Data for 100% Glycerol: Readily biodegradable
Mobility in Environmental Media	Data for 100% Glycerol: Very high mobility in soil [Swann RL et al; Res Rev 85: 17-28 (1983)]
Bioaccumulation/ Accumulation	Not expected

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. Place contaminated packaging in a break proof outer vessel and dispose on in compliance with national and local regulations.
US EPA Waste Number:	Not Applicable

14. TRANSPORTATION MEASURES

DOT:	Not Available
IATA:	Not Available
ADR (road)/ RID (rail):	Not Available
IMDG (sea):	Not Available
General Transport Regulations	Not Applicable

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 the following 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.

Triethylamine

CAS/313 Category Codes: 121-44-8 | CERCLA RQ: 5,000 | Section 313: 313 | RCRACODE: U404

Nickel Compounds | CAS/313 Category Codes: N495 | CERCLA RQ: & (Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985).) | Section 313: 313

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. Listed as Chemical: NICKEL COMPOUNDS
 CAS Number: NDB000
 Listed as Chemical: TRIETHYLAMINE CAS Number: 121-44-8
 Federal Regulatory Program Lists
 Air Contaminants (Occupational and Safety Health Act) Hazardous Air Pollutants (Clean Air Act) Hazardous Constituents (Resource Conservation and Recovery Act) Hazardous Substances (Superfund) Toxic Release Inventory Chemicals California State Regulatory Program Lists
 Air Contaminants (California Occupational and Safety Health Act) California Air Toxics "Hot Spots" Chemicals (Assembly Bill 2588) California Toxic Air Contaminants (Assembly Bill 1807)

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: Nickel Compounds | Type of Toxicity: cancer | CAS No. --- | Date Listed: May 7, 2004

State Right to Know Act

Chemical Name	Glycerol	Nickel Sulphate Hexahydrate	Triethylamine
New Jersey	Listed	Listed	Listed
Pennsylvania	Listed	Not Listed	Listed
New York	Not Listed	Not Listed	Listed
Rhode Island	Not Listed	Not Listed	Listed

International Inventories

Chemical Name	Glycerol	Nickel Sulphate Hexahydrate	Triethylamine
TSCA	Listed	Listed	Listed
DSL	Listed	Not Listed	Listed
NDSL	Not Listed	Not Listed	Not Listed
EINECS	Listed	Not Listed	Listed
CHINA	Listed	Listed	Listed
KECL	Listed	Listed	Listed
JAPAN:	Listed	Listed	Listed
AICS	Listed	Not Listed	Listed

EU Regulations

Annex I Index#	Data for 100% Nickel Sulfate CAS# 7786-81-4: 028-009-00-5 Data for TriethylAmine: 612-004-00-5
Classification	Acute toxicity, Category 3, dermal *; H311 Skin sensitisation, Category 1; H317 Acute toxicity, Category 3, inhalation; H331 Carcinogen; H351
Risk Phrases	H311: Toxic in contact with skin H317: May cause an allergic skin reaction. H331: Toxic if inhaled H351: May cause cancer by inhalation.
Safety Phrases	P201: Obtain special instructions before use. P261: Avoid breathin mist/ vapours/ spray. P273: Avoid release to the environment. P280: Wear protective gloves. P302+P352: IF ON SKIN: Wash with plenty of soap and water. P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P308+P313: IF exposed or concerned: Get medical advice/attention.
Symbols and Indications of Danger	GHS08 GHS07 GHS09

Danger

**Specific Concentration
Limits**Data for Nickel Sulfate: STOT RE 1; H372: C >= 1 % STOT RE 2; H373: 0,1 % <= C
< 1 % Skin Irrit. 2; H315: C >= 20 % Skin Sens. 1; H317: C >= 0,01 %**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: 6/19/2015