

Safety Data Sheet



Revision Date: 7/31/2014

SDS #: SDS-10138-03

ABTS 2-Component Microwell Peroxidase Substrate

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

Product Code

ABTS 2-Component Microwell Peroxidase Substrate

50-62-01

ABTS 2-Component Microwell Peroxidase Substrate

50-62-00

Kit Components:

ABTS Microwell Peroxidase 2-Component Substrate Solution A 50-64-00

ABTS Microwell Peroxidase 2-Component Substrate Solution A 50-64-02

Peroxidase Substrate Solution B 50-65-00

Peroxidase Substrate Solution B 50-65-02

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: 7/30/2014

ABTS Microwell Peroxidase Substrate Solution A

SDS #: SDS-10147-02

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
ABTS Microwell Peroxidase 2-Component Substrate Solution A	50-64-00
	50-64-09
	50-64-02

Hazardous Reagent
ABTS Microwell Peroxidase Substrate Solution 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
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 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): The product contains no substances which at their given concentration, are considered to be classified as hazardous to health or the environment.
Data for 100% Cacodylic Acid:- Cacodylic Acid is a CARCINOGEN. HANDLE WITH EXTREME CAUTION. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.

Principle Route of Exposure Data for 100% Cacodylic Acid:- Skin, Eye, Inhalation and Ingestion

SDS #: SDS-10147-02

- Acute Effects: Eye:** May cause irritation, burns, and red, watery eyes.
- Acute Effects: Skin:** May be absorbed. May cause irritation, burns, itching, rash and loss of pigment.
- Acute Effects: Inhalation:** May irritate the nose and throat.
- Acute Effects: Ingestion:** May cause nausea, vomiting and drowsiness
- Chronic Effects:** Data for 100% Cacodylic Acid:- Cacodylic Acid is a CARCINOGEN in humans. There is evidence that Arsenic and Arsenic compounds cause bladder, lung, and skin cancer in humans. There is limited evidence that Cacodylic Acid is a teratogen in animals. Until further testing has been done, it should be treated as a possible teratogen in humans. Repeated skin contact can cause thickened skin and/or patchy areas of darkening and loss of pigment. Some persons may develop white lines on the nails. Long-term exposure can cause an ulcer or hole in the "bone" (septum) dividing the inner nose, hoarseness and sore eyes. Cacodylic Acid may damage the nervous system causing numbness, "pins and needles," and/or weakness in the hands and feet. Cacodylic Acid may damage the liver.

Additional Information ABTS Substrate solution contains less than 0.01% carcinogen. Data for 100% Cacodylic Acid:- Cacodylic Acid is a CARCINOGEN in humans. There may be no safe level of exposure to a carcinogen, so all contact should be reduced to the lowest possible level.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CHEMICAL</u>	<u>% Weight</u>	<u>CAS #:</u>
ABTS Microwell Peroxidase Substrate Solution A	Cacodylic Acid	<0.01%	75-60-5

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

4. FIRST AID MEASURES

- General Advice** Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.
- Oral Exposure** Rinse mouth. Do NOT induce vomiting. Give plenty of water to drink. Rest. Refer for medical attention.
- Inhalation Exposure** Fresh air, rest.
- Skin Exposure** Remove all contaminated clothes and shoes. 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** Foam, Alcohol Foam, CO2, Dry Chemical and Water/Fog
- Unusual Fire and Explosive Hazards** May emit toxic fumes under fire conditions.

SDS #: SDS-10147-02

Flash Point Not Available

Autoignition Temperature Not Available

Flammability Statement Not Available

Specific hazards arising from the chemical Data for 100% Cacodylic Acid:- Poisonous gasses are produced in fire. Does not burn.

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 DO NOT wash into sewer. It may be necessary to contain and dispose of Cacodylic Acid as a HAZARDOUS WASTE. Contact your state Department of Environmental Protection (DEP) or your regional office of the federal Environmental Protection Agency (EPA) for specific recommendations.

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 Moisten spilled material first or use a HEPA-filter vacuum for clean-up and deposit in sealed containers. Ventilate and wash area after clean-up is complete.

Other Information Data for 100% Cacodylic Acid:- Evacuate personnel and secure and control entrance to the area. Eliminate all ignition sources.

7. HANDLING AND STORAGE

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

Storage: Store at 2-8 °C separated from strong oxidants.

8. EXPOSURE CONTROL

Respiratory Protection Ventilation, local exhaust, or breathing protection. Data for 100% Cacodylic Acid:- Where the potential exists for exposure under 0.5 mg/m³ (as Arsenic), use a NIOSH approved negative pressure, air purifying, particulate filter respirator. Where the potential exists for exposure over 0.5 mg/m³ (as Arsenic), use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positivepressure mode.

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

Physical State Liquid

SDS #: SDS-10147-02

Odor	Not Available
Odor Threshold	Not Available
pH	3.85 - 4.15
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 product specific information.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Conditions to avoid	Not Available
Incompatibility Materials to Avoid	Not Available
Hazardous Decomposition Products	Not Available
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	Acute oral toxicity (LD50): 644 mg/kg [Rat].
LD50 Dermal	Not Available
LC50 Inhalation	Not Available

Chronic Toxicity

Carcinogenicity	Data for 100% Cacodylic Acid:- A carcinogen in humans.
Irritation	Data for 100% Cacodylic Acid:- An eye, skin and respiratory irritant
Corrosivity	Not Applicable
Sensitization	Not applicable.
Neurological Effects	Data for 100% Cacodylic Acid:- may damage the nervous system

SDS #: SDS-10147-02

Mutagenic Effects	Not applicable.
Reproductive Effects	Data for 100% Cacodylic Acid:- There is limited evidence that Cacodylic Acid is a teratogen in animals. Until further testing has been done, it should be treated as a possible teratogen in humans.
Developmental Effects	Not applicable.
Target Organ Effects	Eyes, Skin, Respiratory, Nervous System and Liver
Other adverse effects	Not applicable.

12. ECOLOGICAL MEASURES

Ecotoxicity	The following environmental classifications according to the Preparation Directive 1999/45/EC apply additionally to the indicated concentrations of the substance: 0,25%≤C<2,5% - R52/53 (Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment)
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. Avoid escape into water, drainage, sewer, or the ground. If there is no way of recycling it must be disposed of in compliance with the respective national and local regulations.
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:	Data for 100% Cacodylic Acid:- U136

14. TRANSPORTATION MEASURES

DOT:	Data for 100% Cacodylic Acid:- DOT Classification: CLASS 6.1: Poisonous material. UN1572 PG: II Special Provisions for Transport: Marine Pollutant
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

SDS #: SDS-10147-02

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.

State Regulations

California Proposition 65:

This product contains the following Proposition 65 chemicals: Cacodylic Acid - Cancer Listed May 1, 1996

State Right to Know Act

Chemical Name **Cacodylic Acid**

- Massachusetts** Listed
- New Jersey** Listed
- Pennsylvania** Listed
- New York** Listed
- Rhode Island** Listed

International Inventories

Chemical Name **Cacodylic Acid**

- TSCA** Listed
- DSL** Not Listed
- NDSL** Listed
- EINECS** Listed
- CHINA** Listed
- KECL** Listed
- JAPAN:** Listed
- AICS** Listed

EU Regulations

- Annex I Index#** 033-002-00-5 Arsenic compounds, with the exception of those specified elsewhere in this Annex.
- 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

SDS #: SDS-10147-02

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: 7/30/2014

Safety Data Sheet



Revision Date: 7/4/2014

SDS #: 10143

Peroxidase Substrate Solution B

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:	Product Code
Peroxidase Substrate Solution B	50-65-25
Peroxidase Substrate Solution B	50-65-05
Peroxidase Substrate Solution B	50-65-03
Peroxidase Substrate Solution B	50-65-02
Peroxidase Substrate Solution B	50-65-00
Peroxidase Substrate Solution B	37-00-86
Peroxidase Substrate Solution B	37-00-79
Peroxidase Substrate Solution B	37-01-61

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:

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	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>
Peroxidase Substrate Solution B	Not Applicable	Not Applicable	Not Applicable

GHS Classification	The product contains no substances which at their given concentration, are considered to be hazardous to health or the environment.
---------------------------	---

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.
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 Applicable
LD50 Dermal	Not Applicable
LC50 Inhalation	Not Applicable

Chronic Toxicity

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

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 Regulated

IATA: Not Regulated

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

IMDG (sea): Not Regulated

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

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

SDS #: 10143

Peroxidase Substrate Solution B

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

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 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 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: 7/4/2014