Students,

Please have your Dr. look over these MSDS sheets and then return the ***"Student Medical Release Form"***to your instructor before you can continue with lab. GPC cannot be responsible for medical problems due to conditions that may be compromised by contact with chemicals that are used in our labs.
If you are pregnant, trying to get pregnant, or suffer from an immune deficiency problem, you need to have the medical form filled out by your doctor and submitted to your instructor at the time of your next lab. If you have any other health issue that you feel that you would want your Dr. to clear you on, please have them review the MSDS sheets and contact you if they foresee any problems. They can also fill out the medical form and email it back to you.

If you have any questions, please feel free to contact me, Mrs. J. Peiffer at 678-891-3753

Thanks,

J. Peiffer
Biology Lab Supervisor
GSU–Perimeter College
Clarkston campus
555 North Indian Creek
Drive Clarkston, Ga. 30021

Student Medical Release Form

I, Dr. _____ hereby release _____
(Print name) (Student name)

to attend _____ Lab at Georgia Perimeter College for _____
(Lab name & number—e.g. Biology 1402) (Semester & year-e.g. Fall 09).

By signing this release form, you are stating that the chemicals listed in this packet are safe for this individual to be in contact with or be in close proximity of it.

_____

Dr.'s Signature Date

Please return this form to your instructor, who will then make a copy of it and return **the original** to the **Lab Supervisor**.

Science Department
GSU - Perimeter College
Clarkston campus
555 North Indian Creek
Drive, Clarkston, GA-30021

678-8913753

Specimens in Carosafe®

Section 1 Product Description

Product Name:	Specimens in Carosafe®
Recommended Use:	Science education applications
Synonyms:	None Known
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER

May cause cancer.

GHS Classification:
Carcinogenicity Category 1A, Skin Corrosion/Irritation Category 3, Acute Toxicity - Oral Category 5

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	90
Propylene Glycol	57-55-6	9.1
2-Phenoxyethanol	122-99-6	0.06
2-Amino-2-Ethyl-1,3-Propanediol	115-70-8	0.03

Specimens will contain some residual formaldehyde. Cow and Sheep specimens will contain some residual phenol.

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact:	After contact with skin, wash immediately with plenty of water.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media:	Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS Surfaces may become slippery after spillage.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7 Handling and Storage

Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood Use personal protective equipment as required. Avoid contact with skin and eyes. Do not breathe gas/fumes/vapor/spray.
Storage: Store locked up. Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Propylene Glycol	N/A	N/A	N/A	N/A
2-Phenoxyethanol	N/A	N/A	N/A	N/A
2-Amino-2-Ethyl-1,3-Propanediol	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required.

Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: No information available

Section 9 Physical Data

Formula: See Section 3

Molecular Weight: No data available

Appearance: Colorless Preserved Specimen

Odor: Mild distinct sweet, pungent biological odor.

Odor Threshold: No data available

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data available

Vapor Density (Air=1): No data available

Specific Gravity: 1

Solubility in Water: Soluble

pH: 7

Melting Point: No data available

Boiling Point: 100 C

Flash Point: 200 C

Flammable Limits in Air: No data available

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Percent Volatile by Volume: No data available

Section 10 Reactivity Data

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	None known.
Incompatible Materials:	Metals, Strong oxidizing agents, Strong alkalies, Caustics (bases)
Hazardous Decomposition Products:	Carbon oxides, Nitrogen containing gases
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation and ingestion.

Symptoms (Acute): Diarrhea, Nausea, Respiratory Irritation, Dermititis, Allergies

Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Propylene Glycol	57-55-6	Oral LD50 Dog 22000 mg/kg	Dermal LD50 Rabbit 20800 mg/kg	
2-Phenoxyethanol	122-99-6	Oral LD50 Rat 1260 mg/kg Oral LD50 Mouse 933 mg/kg	Dermal LD50 Rat 14422 mg/kg Dermal LD50 Rabbit 5 ml/kg	
2-Amino-2-Ethyl-1,3-Propanediol	115-70-8			

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Propylene Glycol	57-55-6	Not listed	Not listed	Not listed
2-Phenoxyethanol	122-99-6	Not listed	Not listed	Not listed
2-Amino-2-Ethyl-1,3-Propanediol	115-70-8	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.

Reproductive: No evidence of negative reproductive effects.

Target Organ Effects:

Acute: No information available

Chronic: No information available

Section 12 Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Biodegradation, Dissolved into water
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: Biodegrades at a moderate rate.

Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity

Water	7732-18-5	No data available
Propylene Glycol	57-55-6	96 HR LC50 PIMEPHALES PROMELAS 710 MG/L 96 HR LC50 PIMEPHALES PROMELAS 51400 MG/L [STATIC] 96 HR LC50 ONCORHYNCHUS MYKISS 51600 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 1000 MG/L [STATIC] 24 HR EC50 DAPHNIA MAGNA 10000 MG/L 96 HR EC50 PSEUDOKIRCHNERIELLA SUBCAPITATA 19000 MG/L
2-Phenoxyethanol	122-99-6	96 HR LC50 PIMEPHALES PROMELAS 366 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 500 MG/L 72 HR EC50 DESMODESMUS SUBSPICATUS 500 MG/L
2-Amino-2-Ethyl-1,3-Propanediol	115-70-8	Not available

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
Not regulated for transport by US DOT.

Air - IATA Proper Shipping Name:
Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Propylene Glycol	57-55-6	No	No	No	No	No
2-Phenoxyethanol	122-99-6	No	No	No	No	No
2-Amino-2-Ethyl-1,3-Propanediol	115-70-8	No	No	No	No	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer.

Section 16 Additional Information

Revised: 09/09/2015 **Replaces: 08/13/2015** **Printed: 10-29-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

National Toxicology Program
Occupational Safety and Health Administration Permissible Exposure Limit
Parts per million
Resource Conservation and Recovery Act Superfund Amendments and Reauthorization Act Threshold Limit Value
Toxic Substances Control Act Immediately dangerous to life and health

Material Safety Data Sheet

Iodine Potassium Iodide Solution

Revised: 11/18/2011
Replaces: 11/16/2011
Printed: 12/01/2011

Carolina Biological Supply Company
2700 York Rd | Burlington, NC 27215 • to order: 800.334.5551 • for support: 800.227.1150

CAROLINA
www.carolina.com

Section 1 - Product Description

Product Name: Iodine Potassium Iodide
Product Code(s): 86-9051, 86-9053, 86-9055, 20-2220, 20-2340, 20-2341, 20-2500, 20-2501, 74-6410, 95-7860, 74-6410, 20-6078, B5997, B6080, B6085, 20-2335, 20-6000, 20-6070, 20-2275, 10-1026, C70531
Size: 30ml, 100ml, 500ml
Chemical Name: N/A
CAS Number: See Section 3
Formula: See Section 3
Synonyms: N/A
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F) **Chemtrec** 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 - Hazard Identification

Emergency Overview: Harmful by inhalation, in contact with skin and if swallowed.
Potential Health Effects:
Eyes: May cause irritation.
Skin: May cause irritation to skin.
Ingestion: May cause gastrointestinal discomfort.
Inhalation: May cause irritation to respiratory tract.

Section 3 - Composition / Information on Ingredients

Principal Hazardous Components: Iodine (CAS#7553-56-2) 1%, Potassium Iodide (CAS# 7681-11-0) 2%, Water (balance)
TLV units: (Iodine) ACGIH-TLV 0.1 ppm (Ceiling)
PEL units: (Iodine) OSHA-PEL 0.1 ppm (Ceiling)

Section 4 - First Aid Measures

Emergency and First Aid Procedures:
Eyes - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin - After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
Ingestion - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If swallowed, rinse mouth with water (only if the person is conscious).
Inhalation - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 5 - Firefighting Procedures

Flash Point (Method Used): N/A
NFPA Rating:
Health: 1
Fire: 0
Reactivity: 0
Extinguisher Media: Use dry chemical, CO2 or appropriate foam.
Flammable Limits in Air % by Volume: N/A
Autoignition Temperature: N/A
Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: N/A

Section 6 - Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Ventilate area of spill. Eliminate all sources of ignition. Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbent and containerize for disposal.

Section 7 - Special Precautions

Precautions to Take in Handling or Storing: Keep container tightly closed in a cool, well-ventilated place.
Keep container dry.

Section 8 - Protection Information

Respiratory Protection (Specify Type): None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.
Ventilation:
Local Exhaust: Yes
Mechanical(General): Yes
Special: No
Other: No
Protective Gloves: Natural rubber, Neoprene, PVC or equivalent.
Eye Protection: Splash proof chemical safety goggles should be worn.
Other Protective Clothing or Equipment: Lab coat, apron, eye wash, safety shower.

Section 9 - Physical Data

Molecular Weight: N/A
Boiling Point: N/A
Vapor Density(Air=1): N/A
Percent Volatile by Volume: 97%
Solubility in Water: Soluble
Melting Point: N/A
Vapor Pressure: N/A
Specific Gravity (H2O=1): N/A
Evaporation Rate (BuAc=1): N/A
Appearance and Odor: Deep amber liquid with slight characteristic odor of iodine.

Section 10 - Reactivity Data

Stability: Stable
Conditions to Avoid: N/A
Incompatibility (Materials to Avoid): N/A
Hazardous Decomposition Products: N/A
Hazardous Polymerization: Will not occur

Section 11 - Toxicity Data

Toxicity Data: (Potassium Iodide) orl-mouse LDLo 1862 mg/kg
(Iodine) orl-rat LD50 14 g/kg

Effects of Overexposure:
Acute: See Section 2
Chronic: Mutation data cited. Reproductive data cited. Not listed as a carcinogen by IARC, NTP or OSHA.
Conditions Aggravated by Overexposure: N/A
Target Organs: N/A
Primary Route(s) of Entry: N/A

Section 12 - Ecological Data

EPA Waste Numbers: N/A

Section 13 - Disposal Information

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 - Transport Information

DOT Proper Shipping Name: N/A

Section 15 - Regulatory Information

EPA TSCA Status: On TSCA Inventory
Hazard Category for SARA Section 311/312 Reporting: Acute

Name List:
Potassium Iodide - No
Iodine - No

Chemical Category:
Potassium Iodide - No
Iodine - No

CERCLA Section 103 RQ(lb.): Potassium Iodide - No
Iodine - No
RCRA Section 261.33: Potassium Iodide - No
Iodine - No

Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Number	Chemical Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act

Safety Data Sheet
Methylene Blue Staining Solution

Product Name: Methylene Blue Staining Solution
Recommended Use: Science education applications
Synonyms: Methylene Blue Stain
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

Flammable liquid and vapor. May cause damage to organs.
GHS Classification:
Flammable Liquid Category 3
Other Safety Precautions: IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
Acute Toxicity Oral Contains 21.72375 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains 21.72375 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor
Contains
21.72375 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist
Contains
21.72375 % of the mixture consists of ingredient(s) of unknown toxicity

Chemical Name	CAS #	%
Water	7732-18-5	76.02
Ethanol	64-17-5	21.49
2-Propanol	67-63-0	1.19
Methanol	67-56-1	1.07
Methylene Blue Chloride	61-73-4	0.23

Emergency and First Aid Procedures
Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Extinguishing Media: Use media suitable to extinguish surrounding fire.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Steps to Take in Case Material Is Released or Spilled:
No health affects expected from the clean-up of this material if contact can be avoided.
Follow personal protective equipment recommendations found in Section 8 of this (M)SDS
Ventilate the contaminated area.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Handling: Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/…/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Storage: Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly

closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

ACGIH OSHA PEL
Chemical Name (TWA) (STEL) (TWA) (STEL)
Ethanol N/A 1000 ppm STEL 1000 ppm TWA;
1900 mg/m3 TWA
N/A
2-Propanol 200 ppm TWA 400 ppm STEL 400 ppm TWA; 980
mg/m3 TWA
N/A
Methanol 200 ppm TWA 250 ppm STEL 200 ppm TWA; 260
mg/m3 TWA
N/A
Methylene Blue Chloride N/A N/A N/A N/A
Control Parameters
Engineering Measures: No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.
Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.
Respiratory Protection: No respiratory protection required under normal conditions of use.
Respirator Type(s): None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves: Nitrile

Formula: See Section 3 **Vapor Pressure:** No data available
Molecular Weight: No data available **Evaporation Rate (BuAc=1):** No data available
Appearance: Colorless Blue Liquid **Vapor Density (Air=1):** No data available
Odor: Mild Alcohol Odor **Specific Gravity:** < 1
Odor Threshold: No data available **Solubility in Water:** Soluble
pH: No data available **Log Pow (calculated):** No data available
Melting Point: -114 C **Autoignition Temperature:** No data available
Boiling Point: No data available **Decomposition Temperature:** No data available
Flash Point: No data available **Viscosity:** No data available
Flammable Limits in Air: No data available **Percent Volatile by Volume:** No data available

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Temperatures above flash point in combination with sparks, open flames, or other sources of ignition.
Incompatible Materials: Water-reactive materials, Organic Peroxides, Strong acids, Oxidizing materials
Hazardous Polymerization: Will not occur

Routes of Entry Inhalation and ingestion.
Symptoms (Acute): Respiratory Irritation, Dermititis, Central Nervous System Depression, Dizziness, Respiratory disorders, Eye disorders
Delayed Effects: No data available
Acute Toxicity:
Chemical Name CAS Number Oral LD50 Dermal LD50 Inhalation LC50
Water 7732-18-5 Oral LD50 Rat
90000 mg/kg
2-Propanol 67-63-0 Oral LD50 Rat
5045 mg/kg
Oral LD50 Mouse
3600 mg/kg
INHALATION
LC50 Rat 16000
ppm
Methanol 67-56-1 Oral LD50 Mouse
7300 mg/kg

INHALATION
LC50 Rat 64000
ppm
Methylene Blue Chloride 61-73-4 Oral LD50 Rat
1180 mg/kg
Oral LD50 Mouse
3500 mg/kg
Carcinogenicity:
Chemical Name CAS Number IARC NTP OSHA
Ethanol 64-17-5 Listed Listed Listed
2-Propanol 67-63-0 Listed Not listed Not listed
Methanol 67-56-1 Not listed Not listed Not listed
Methylene Blue Chloride 61-73-4 Not listed Not listed Not listed
Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: Central Nervous System, Eyes, Blood
Chronic: Eyes, Blood

Overview: This material is not expected to be harmful to the ecology.
Mobility: No data
Persistence: Biodegradation, Adsorbs to soil.
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data
Chemical Name CAS Number Eco Toxicity

Material Safety Data Sheet

METHYLENE BLUE STAINING SOL.

Revised: 10/13/2011
Replaces: 06/24/2011
Printed: 12/01/2011

Carolina Biological Supply Company
2700 York Rd | Burlington, NC 27215 • to order: 800.334.5551 • for support: 800.227.1150

CAROLINA
www.carolina.com

Section 1 - Product Description

Product Name: Methylene Blue Staining Solution
Product Code(s): 87-5911, 87-5913, 87-5915
Size: 25 mL, 100 mL, 500 mL
Chemical Name: N/A
CAS Number: See Section 3
Formula: See Section 3
Synonyms: N/A
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F) **Chemtrec** 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 - Hazard Identification

Emergency Overview: Non-Hazardous under normal use.
Potential Health Effects:
Eyes: May cause irritation.
Ingestion: May cause gastrointestinal discomfort.
Skin: May cause irritation to skin.
Inhalation: May cause irritation to respiratory tract.

Section 3 - Composition / Information on Ingredients

Principal Hazardous Components: Methylene Blue (CAS#61-73-4) - 0.23%; Ethyl Alcohol (CAS#64-17-5) - 21.27%; Methyl isobutyl ketone (CAS#108-10-1) - 1.4%; Hexane (CAS#110-54-3) - 0.35%
TLV units: Methylene Blue: No ACGIH-TLV data available
Ethyl alcohol: ACGIH-TLV 1,000 ppm (TWA)
Methyl isobutyl ketone: ACGIH-TLV 50 ppm (TWA); 75 ppm (STEL)
Hexane: ACGIH-TLV- 50 ppm (TWA)
PEL units: Methylene Blue: No OSHA-PEL data available
Ethyl alcohol: OSHA-PEL 1,000 ppm (TWA).
Methyl isobutyl ketone: OSHA-PEL 100 ppm (TWA)
Hexane: OSHA-PEL- 500 ppm (TWA)

Section 4 - First Aid Measures

Emergency and First Aid Procedures:
Eyes - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin - After contact with skin, wash immediately with plenty of water.
Ingestion - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If swallowed, rinse mouth with water (only if the person is conscious).

Inhalation - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 5 - Firefighting Procedures

Flash Point (Method Used): 13.1 °C
NFPA Rating:
Health: 1
Fire: 2
Reactivity: 1
Extinguisher Media: Use media suitable to extinguish surrounding fire.
Flammable Limits in Air % by Volume: Ethyl alcohol: LEL- 3.3% Ethyl alcohol: UEL- 19%
Autoignition Temperature: 422.8 °C
Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: N/A

Section 6 - Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Ventilate area of spill. Eliminate all sources of ignition. Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbent and containerize for disposal.

Section 7 - Special Precautions

Precautions to Take in Handling or Storing: Keep container tightly closed in a cool, well-ventilated place.
Bond and ground containers when transferring liquid.
Keep away from oxidizing materials and strong acids.
Wear suitable protective clothing, gloves and eye/face protection. This material should be kept in an area suitable for the storage of flammable liquids. Store away from oxidizing agents, sparks and flame.

Section 8 - Protection Information

Respiratory Protection (Specify Type): None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.
Ventilation:
Local Exhaust: Yes
Mechanical(General): Yes
Special: No
Other: No
Protective Gloves: Natural rubber, Neoprene, PVC or equivalent.
Eye Protection: Splash proof chemical safety goggles should be worn.
Other Protective Clothing or Equipment: Lab coat, apron, eye wash, safety shower.

Section 9 - Physical Data

Molecular Weight: N/A
Boiling Point: N/A
Vapor Density(Air=1): N/A
Percent Volatile by Volume: N/A
Solubility in Water: Soluble
Melting Point: N/A
Vapor Pressure: N/A
Specific Gravity (H2O=1): N/A
Evaporation Rate (BuAc=1): N/A
Appearance and Odor: Opaque blue liquid; characteristic odor of ethyl alcohol

Section 10 - Reactivity Data

Stability: Stable
Conditions to Avoid: Heat and sources of ignition.
Incompatibility (Materials to Avoid): Oxidizers, Acids, Alkalis, Metal Salts, Halogens, Reducing agents,

Hazardous Decomposition Products: COx,
Hazardous Polymerization: Will not occur

Section 11 - Toxicity Data

Toxicity Data: Methylene Blue: orl-rat LD50 1180 mg/kg
Ethyl alcohol: orl-rat LD50 7,060 mg/kg; ihl-rat LC50 20,000 ppm/10H
Methyl isobutyl ketone: orl-rat LD50 2,080 mg/kg; ihl-rat LC50 8.2 mg/L/4H
Hexane: orl-rat LD50 28,710 mg/kg
Effects of Overexposure:
Acute: See Section 2
Chronic: Mutation data cited. Reproductive data cited. Not listed as a carcinogen by IARC, NTP or OSHA. Tumorigenic data cited.
Conditions Aggravated by Overexposure: N/A
Target Organs: N/A
Primary Route(s) of Entry: N/A

Section 12 - Ecological Data

EPA Waste Numbers: U161

Section 13 - Disposal Information

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 - Transport Information

DOT Proper Shipping Name: UN1993, Description: Flammable Liquid, n.o.s. (Ethyl alcohol, Methyl isobutyl ketone), 3, II

Section 15 - Regulatory Information

EPA TSCA Status: On TSCA Inventory
Hazard Category for SARA Section 311/312 Reporting: Acute Fire

Name List:
Methylene Blue - No
Ethyl alcohol - No
Methyl isobutyl ketone - Yes
Hexane - No

Chemical Category:
Methylene Blue - No
Ethyl alcohol - No
Methyl isobutyl ketone - No
Hexane - No

CERCLA Section 103 RQ(lb.): Methylene Blue - No
Ethyl alcohol - No
Methyl isobutyl ketone - 5000
Hexane - No
RCRA Section 261.33: Methylene Blue - No
Ethyl alcohol - No
Methyl isobutyl ketone - Yes
Hexane - No

Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Number	Chemical Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act

Safety Data Sheet

Potassium Iodide

Product Name: Potassium Iodide
Recommended Use: Science education applications
Synonyms: Knollide
Distributor: Carolina Biological Supply Company
2700 York Road, Burlington, NC 27215
1-800-227-1150
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec: 800-424-9300 (Transportation Spill Response 24 hours)

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

Harmful if swallowed. May cause an allergic skin reaction.
GHS Classification:
Acute Toxicity - Oral Category 4

Chemical Name CAS # %
Potassium Iodide 7681-11-0 100

Emergency and First Aid Procedures
Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact: After contact with skin, wash immediately with plenty of water.
Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained
breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Hydrogen Iodide

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Handling: Avoid breathing dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: Green - general chemical storage

ACGIH OSHA PEL
Chemical Name (TWA) (STEL) (TWA) (STEL)
Potassium Iodide 0.01 ppm TWA
(inhalable fraction
and vapor)
N/A N/A N/A
Control Parameters
Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.
Respiratory Protection: Respiratory protection may be required to avoid overexposure when handling this

product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.
Respirator Type(s): NIOSH approved air purifying respirator with dust/mist filter.
Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves: Butyl rubber, Neoprene, Nitrile, Polyvinyl chloride

Formula: KI **Vapor Pressure:** 1mm at 745°C
Molecular Weight: 166.00 **Evaporation Rate (BuAc=1):** No data available
Appearance: White Solid **Vapor Density (Air=1):** No data available
Odor: None **Specific Gravity:** 3.123 at 20°C
Odor Threshold: No data available **Solubility in Water:** Soluble
pH: No data available **Log Pow (calculated):** No data available
Melting Point: 681 C **Autoignition Temperature:** No data available
Boiling Point: 1323 C **Decomposition Temperature:** No data available
Flash Point: No data available **Viscosity:** No data available
Flammable Limits in Air: No data available **Percent Volatile by Volume:** No data available

Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: Dusting.
Incompatible Materials: Strong oxidizing agents, Peroxides
Hazardous Decomposition Products: Hydrogen Iodide
Hazardous Polymerization: Will not occur

Routes of Entry Inhalation and ingestion.
Symptoms (Acute): Iodism, Hyperthyroidism, Hypothyroidism

Delayed Effects: Hyperthyroidism
Hypothyroidism
Iodism
Acute Toxicity:
Chemical Name CAS Number Oral LD50 Dermal LD50 Inhalation LC50
Potassium Iodide 7681-11-0 Not determined Not determined Not determined
Carcinogenicity:
Chemical Name CAS Number IARC NTP OSHA
Potassium Iodide 7681-11-0 Not listed Not listed Not listed
Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: Evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: Thyroid
Chronic: Thyroid

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have very high mobility in soil. It does not absorb to most soil types.
Persistence: Dissolved into water
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data
Chemical Name CAS Number Eco Toxicity
Potassium Iodide 7681-11-0

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

Ground - DOT Proper Shipping Name: Air - IATA Proper Shipping Name:
Not regulated for ground transport by US DOT. Not regulated for air transport by IATA.

TSCA Status: All components in this product are on the TSCA Inventory.
Chemical Name CAS
Number
§ 313 Name § 304 RQ CERCLA RQ § 302 TPQ CAA 112(2)
TQ
Potassium Iodide 7681-11-0 No No No No No

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application of the substance covered in the (Material) Safety Data Sheet.
Glossary

ACGIH
CAS
CERCLA
DOT
IARC
N/A
American Conference of Governmental
Industrial Hygienists
Chemical Abstract Service Number
Comprehensive Environmental Response,
Compensation, and Liability Act
U.S. Department of Transportation
International Agency for Research on Cancer
Not Available
NTP
OSHA
PEL
ppm
RCRA
SARA
TLV
TSCA
IDLH
National Toxicology Program
Occupational Safety and Health Administration
Permissible Exposure Limit
Parts per million
Resource Conservation and Recovery Act
Superfund Amendments and Reauthorization Act
Threshold Limit Value
Toxic Substances Control Act
Immediately dangerous to life and healt