

Benz Microscope Optics Center, Inc. 3980 Varsity Drive Ann Arbor, MI 48108 Tel: 734-994-3880 Fax: 734-994-9090 email: benzmicroscope@aol.com

# Bacteria Stains Chemicals

## 5PK

Safety Data Sheets

Part # BB0002-5PK

### Kit Contains:

- 1 x 30 ml Methylene Blue Loeffler Solution
- 1 x 30 ml Methylene Blue Saturated Solution
- 1 x 30 ml Carbol Fuchsin Solution
- 1 x 30 ml Carbol Rose Bengal Solution
- 1 x 30 ml Crystal Violet Solution

#### SDS No.: MM0451

#### SAFETY DATA SHEET

FLAMMABLE ST	ORAGE	CODE	RED
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Section 1 Identification	Page E1 of E2
BENZ MICROSCOPE OPTICS CENTER NCC CENTER Fax: 734-994-9090 email: benzmicroscope@aol.com	CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.
Product METHYLENE BLUE SOLUTION (LOEFFLER'S)	
Synonyms Loeffler's Methylene Blue Stain	
Section 2 Hazards identification	
<ul> <li>Signal word: DANGER</li> <li>Pictograms: GHS02 / GHS08 / GHS06</li> <li>Target organs: Eyes, Central nervous system, Liver, Kidneys.</li> <li></li></ul>	<ul> <li>Precautionary statement:</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P240: Ground/bond container and receiving equipment.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P260: Do not breathe mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P312: Call a POISON CENTER or doctor if you feel unwell.</li> <li>P332+P313: If skin irritation occurs: Get medical attention.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P337+P333: Store in a well-ventilated place. Keep container tightly closed.</li> <li>P403+P233: Store in a well-ventilated place. Keep container tightly closed.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.</li> </ul>

#### Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients				
Chemical Name	CAS #	%	EINECS	
Ethyl alcohol, 95% denatured*	64-17-5	99.45%	200-578-6	
Methylene blue chloride	61-73-4	0.5%	200-515-2	
Potassium hydroxide	1310-58-3	0.04%	215-181-3	
Water	7732-18-5	Balance	231-791-2	
<u>*Denaturants:</u>				
Isopropyl alcohol	67-63-0		200-661-7	
Methanol	67-56-1		200-659-6	
Methyl isobutyl ketone	108-10-1		203-550-1	

#### Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

#### Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

#### Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

#### Section 7 Handling and storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Protect from light.

Section 8	Exposure controls / personal protection			
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Exposure Limits.	Ethanol	STEL: 1000 ppm / 1880 mg/m <sup>3</sup> (A3)	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9	Physical and chemical	properties				
• •	xteristic odor. Data not available. lable. J <b>point:</b> -114°C (-173°F)* -80°C (165.2-176°F)*	Evaporation rate (Butyl acetat Flammability (solid/gas): Datt Explosion limits: Lower / Upp Vapor pressure (mm Hg): Ca Vapor density (Air = 1): Ca 1.3 Relative density (Specific gravity): Solubility(ies): Soluble in wate	not available. er: 4.0%(V) / 20.0%(V)* 50 @ 20°C* * 0.7919-0.7955°C @ 60/60°F*	Auto-ignit Decompos Viscosity: Molecular	ion temperature:	<b>re:</b> Data not available. le.
Section 10	Stability and reactivity					
Chemical stability Conditions to avo	,	Hazardous polymerizat eat, sparks, open flame and other so				
Incompatible mate	terials: Strong oxidizers, inorga	nic acids and halogens.				
Hazardous decom	nposition products: Oxides of	carbon.				
Section 11	Toxicological information	on				
IARC classified: Gr OSHA: No compor CA Prop 65: A WA cancer and birth de	roup 3: Not classifiable as to its nent of this product present at le	els greater than or equal to 0.1% is carcinogenicity to humans. [Isoprop evels greater than or equal to 0.1% i loose you to chemicals including Metl m	anol] identified as a carcinoge	n or potential	carcinogen by OS	
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The information contained herein is turnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

#### SDS No.: MM0450

#### SAFETY DATA SHEET

FLAMMABLE S	TORAGE	CODE R	ED
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Description       Bar Microscope Optics Center, Inc.         380 Variativy Drive       Ann. Actor, M. 48108         Ann. Actor, M. 48108       Tr. 734-984-0800         The right of the right right of the right of the right of the right of the rig	Section 1 Identification	Page E1 of E2
Methylene Blue Solution, 1% Alcoholic / Methylene Blue Alcohol/Water Solution         Section 2       Hazards identification         Signal word: DANGER Pictograms: GHS02 / GHS07       Precautionary statement(s): P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P244: Use explosion-proof electrical/ventilating/lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P261: Avoid breathing mist/vapours/spray. P264: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312: Call a POISON CENTER or doctor if you feel unwell. P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish. P403+P235: Store in a well-ventilated place. Keep cool.	OPTICS         3980 Varsity Drive           Ann Arbor, MI 48108         734-934-3880           INC.         Fax: 734-994-9090	Phone Number (800) 424-9300 For laboratory and industrial use only.
<ul> <li>Section 2 Hazards identification</li> <li>Signal word: DANGER Pictograms: GHS02 / GHS07</li> <li>Target organs: Central nervous system, Liver, Kidneys.</li> <li> With a system of the sys</li></ul>	Product METHYLENE BLUE CHLORIDE, 1%	ALCOHOLIC SOLUTION
<ul> <li>Signal word: DANGER Pictograms: GHS02 / GHS07</li> <li>Target organs: Central nervous system, Liver, Kidneys.</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P233: Keep container tightly closed.</li> <li>P240: Ground/bond container and receiving equipment.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P244: Wash hands thoroughly after handling.</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P244: Wash hands thoroughly after handling.</li> <li>P217: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P312: Call a POISCON CENTER to doctor if you feel unwell.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.</li> <li>P403+P235: Store in a well-ventilated place. Keep cool.</li> </ul>	Synonyms Methylene Blue Solution, 1% Alcoholi	; / Methylene Blue Alcohol/Water Solution
Pictograms: GHS02 / GHS07         Target organs: Central nervous system, Liver, Kidneys.         P210: Keep away from head/sparks/open flames/hot surfaces. No smoking.         P233: Keep container tightly closed.         P240: Ground/bond container and receiving equipment.         P242: Use only non-sparking tools.         P242: Use only non-sparking tools.         P243: Take precautionary measures against static discharge.         P242: Use only non-sparking tools.         P243: Take precautionary measures against static discharge.         P244: Wash hands thoroughly after handling.         P245: Keep away from head/sparks/open flames/hot surfaces. No smoking.         P240: Ground/bond container and receiving equipment.         P242: Use only non-sparking tools.         P243: Take precautionary measures against static discharge.         P244: Wash hands thoroughly after handling.         P245: Kordetive gloves/protective clothing/eye protection/face protection.         P230: Wear protective gloves/protective clothing/eye protection/face protection.         P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for         P319: Causes serious eye irritation.         H336: May cause drowsiness or dizziness.         P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.         P337+P313: If eye irritation persists: Get m	Section 2 Hazards identification	
P405: Store locked up. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.	Pictograms: GHS02 / GHS07 Target organs: Central nervous system, Liver, Kidr	<ul> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P233: Keep container tightly closed.</li> <li>P240: Ground/bond container and receiving equipment.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P261: Avoid breathing mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P312: Call a POISON CENTER or doctor if you feel unwell.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.</li> <li>P405: Store locked up.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in</li> </ul>

#### Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information	on ingredients			
Chemical Name	CAS #	%	EINECS	
Isopropyl alcohol Water Methylene blue chloride (C.I. No. 52015) Sodium benzoate	67-63-0 7732-18-5 61-73-4 532-32-1	50.0% 48.8% 1.0% 0.2%	200-661-7 231-791-2 200-515-2 208-534-8	

#### Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

#### Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

#### Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

#### Section 7 Handling and storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Linits.	Isopropanol	TWA: 200 ppm / STEL: 400 ppm	TWA: 400 ppm / 980 mg/m <sup>3</sup>	TWA: 400 ppm / STEL: 500 ppm	

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-

approved respirator			5	, ,	i	,	
Section 9	Physical and chemical pro	operties					
Appearance: Clear Odor: Aromatic odo Odor threshold: Do pH: Data not availa Melting / Freezing poi Boiling point: 80°C Flash point: 23.9°C	vr. ata not available. ble. nt: Approximately -21.6°C (-7°F) (176°F)	Flammability ( Explosion limit Vapor pressure Vapor density Relative density	tte (Butyl acetate = 1) solid/gas): Data not a ts: Lower / Upper: 2 e (mm Hg): 33 mm @ (Air = 1): 2.1 [Pure IF (Specific gravity): 0.8 Complete in water.	available. % / 12% [Pure IPA] 20°C [Pure IPA]	Auto-ignitio Decompos Viscosity: Molecular	n temperature: 39	e
Section 10	Stability and reactivity						
Chemical stability: Conditions to avoi	Stable <b>d:</b> Excessive temperatures, heat		ous polymerization: Name and other sources				
Incompatible mate	rials: Strong oxidizing materials,	caustics, alumin	ums, metals, nitroform	n, oleum, chlorinated	compounds of	can react vigorous	sly with this alcohol.
Hazardous decom	oosition products: Oxides of ca	irbon.					
Section 11	Toxicological information						
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC classified: Group 3: Not classifiable as to its carcinogenicity to humans OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity. <b>Reproductive toxicity:</b> Data not available <b>STOT-single exposure:</b> The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects. <b>STOT-repeated exposure:</b> Data not available <b>Potential health effects:</b> Inhalation: Inhalation of high vapor concentrations may cause central nervous system depression resulting in dizziness, drowsiness, nausea, vomiting, inability to concentrate and irritation of the throat. Continued inhalation may result in unconsciousness and death. Ingestion: Aspiration hazard. Liquid can directly enter the lungs (aspirated) when swallowed or vomited. Serious lung damage and possible fatal chemical pneumonia can develop if this occurs. Skin: Prolonged or repeated contact may cause irritation and drying, cracking and defatting of the skin which can lead to dermatitis. Eyes: Contact causes burning sensation, redness, swelling, and/or blurred vision. Signs and symptoms of exposure: See Potential health effects above.						cts. vomiting, inability to concentrate	
Section 12	tion: RTECS #: NT8050000 [Is Ecological information						
Toxicity to daphnia Toxicity to algae: S Persistence and de Mobility in soil: No Other adverse effe Section 13	cts: An environmental hazard ca Disposal considerations	es: Artemia salina e), LOEC50 = 1,8 Bioaccumu PBT and vi annot be excluded	a (Crustacea), EC50 = 800 mg/L/7 days [Isopr Jlative potential: No PvB assessment: No d in the event of unpro	>10,000 mg/L/24 hc opanol] data available o data available fessional handling or	disposal.		
	idelines are intended for the c e different. Dispose of in acco Transport information						
UN/NA number:	•	name: Alcoho	ols, n.o.s., (Isopropa	inol)			
Hazard class: 3	Packing g nited quantity equal to or less	roup: III	Reportal	ble Quantity: No G Guide # 127		Ма	arine pollutant: No
Section 15	Regulatory information						
	ed to be listed if the CAS number for t	he anhydrous form	is on the Inventory list.				
Compon	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Isopropyl alcohol		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

#### SDS No.: CC0165

#### SAFETY DATA SHEET

FLAMMABL	E STORAGE	CODE RED

Gategory 2)       contact lenses, if present and easy to do. Continue rinsing.         STOT-SE (Category 3)       P310: Immediately call a POISON CENTER or doctor.         STOT-SE (Category 2)       P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.         H226: Flammable liquid and vapour.       P332+P313: If skin irritation occurs: Get medical attention.         H315: Causes skin irritation.       P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathin         H318: Causes serious eye damage.       P308+P313: IF exposed or concerned: Get medical attention.         H332: Harmful if inhaled.       P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or wate spray to extinguish.	Section 1	Identification	Page E1 of E2
Synonyms       None         Section 2       Hazards identification         Signal word: DANGER       Pictograms: GHS02 / GHS05 / GHS07 / GHS08         Target organs: Eyes, Central nervous system, Liver, Kidneys.       P201: Obtain special instructions before use.         P202: Do not handle until all safety precautions have been read and understood.         P203: Keep container tightly closed.         GHS Classification:         Flammable liquid (Category 3)         Skin irritation (Category 2)         Eye damage (Category 1)         Acute toxicity, inhalation (Category 2)         Carcinogenicity (Category 2)         STOT-SE (Category 2)         GHS Label information: Hazard statement:         H226: Flammable liquid and vapour.         H318: Causes skin initiation.         H318: Causes serious eye damage.         H332: Harmful if inhaled.		3980 Varsity Drive Ann Arbor, MI 48108 Tel: 734-994-3880 Fax: 734-994-9090	Phone Number (800) 424-9300 For laboratory and industrial use only.
Section 2       Hazards identification         Signal word: DANGER       Pictograms: GHS02 / GHS05 / GHS07 / GHS08         Target organs: Eyes, Central nervous system, Liver, Kidneys.       P201: Obtain special instructions before use.         View       View         View       View         GHS Classification:       P201: Obtain special instructions before use.         Flammable liquid (Category 3)       View         Skin irritation (Category 2)       View         Eye damage (Category 1)       Acute toxicity, inhalation (Category 2)         Carcinogenicity (Category 2)       P201: Obtain special instructions before use.         STOT-SE (Category 3)       STOT-SE (Category 3)         STOT-SE (Category 2)       P202: Use only on-sparking tools.         GHS Label information: Hazard statement:       P202: Use only on-sparking tools.         H226: Flammable liquid and vapour.       P203: Starp rotective gloves/protective clothing/eye protection/face protection.         P305: Harmful if inhaled.       P306: PP378: IF askin irritation.         H226: Flammable liquid and vapour.       P332: Harmful if inhaled.         H232: Harmful if inhaled.       P306: PP378: IF askin irritation.         H232: Harmful if inhaled.       P306: PP378: IF askin irritation.         H232: Harmful if inhaled.       P306: PP378: IF askin irritation. <td< th=""><th>Product</th><th>CARBOL FUCHSIN SOLUTION (ZIEHL-NEELSEN)</th><th></th></td<>	Product	CARBOL FUCHSIN SOLUTION (ZIEHL-NEELSEN)	
<ul> <li>Signal word: DANGER</li> <li>Pictograms: GHS02 / GHS05 / GHS07 / GHS08</li> <li>Target organs: Eyes, Central nervous system, Liver, Kidneys.</li> <li></li></ul>	Synonyms	None	
<ul> <li>Pictograms: GHS02 / GHS05 / GHS07 / GHS08</li> <li>Target organs: Eyes, Central nervous system, Liver, Kidneys.</li> <li>P201: Obtain special instructions before use.</li> <li>P202: Do not handle until all safety precautions have been read and understood.</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P223: Keep container tightly closed.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Keep container tightly closed.</li> <li>P244: Use only non-sparking tools.</li> <li>P244: Use only non-sparking tools.</li> <li>P244: Use only non-sparking tools.</li> <li>P244: Use only outdoors or in a well-ventilated area.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P270: Do not eat, drink or smoke when using this product.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection./face protection.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P310: Immediately call a POISON CENTER or doctor.</li> <li>P303+P331: If skin irritation occurs: Get medical attention.</li> <li>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathill P308+P313: If exposed or concerned: Get medical attention.</li> <li>P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or wat spray to extinguish.</li> </ul>	Section 2	Hazards identification	
H341: Suspected of causing genetic defects.       P403+P233+P235: Store in a well-ventilated place. Keep container tightly closed.         H351: Suspected of causing cancer.       F403+P233+P235: Store in a well-ventilated place. Keep container tightly closed.         H371: May cause damage to organs.       P405: Store locked up.         H22ards not otherwise classified:       P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.	Pictograms: Target organs: Target organs: GHS Classific Flammable liq Skin irritation ( Eye damage (C Acute toxicity, ( Carcinogenicit) STOT-SE (Cat STOT-SE (Ca	GHS02 / GHS05 / GHS07 / GHS08 : Eyes, Central nervous system, Liver, Kidneys.	<ul> <li>P201: Obtain special instructions before use.</li> <li>P202: Do not handle until all safety precautions have been read and understood.</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P233: Keep container tightly closed.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P260: Do not breathe mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P270: Do not eat, drink or smoke when using this product.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P310: Immediately call a POISON CENTER or doctor.</li> <li>P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>P304+P313: If skin irritation occurs: Get medical attention.</li> <li>P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.</li> <li>P403+P233+P235: Store in a well-ventilated place. Keep container tightly closed. Keep cool.</li> <li>P405: Store locked up.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in</li> </ul>

Section 3 Composition / information	on on ingredients			
Chemical Name	CAS #	%	EINECS	
Water	7732-18-5	85.81%	231-791-2	
Ethyl alcohol, denatured*	64-17-5	9.51%	200-578-6	
Phenol	108-95-2	4.39%	203-632-7	
Basic fuchsin (Magenta)	632-99-5	0.29%	211-189-6	
*Denaturants:				
Isopropyl alcohol	67-63-0	0.813%	200-661-7	
Water	7732-18-5	0.47%	231-791-2	
Methanol	67-56-1	0.36-0.46%	200-659-6	
Methyl isobutyl ketone	108-10-1	0.08-0.09%	203-550-1	

#### Section 4 First aid measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION/DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

#### Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

#### Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

#### Section 7 Handling and storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Limits.	Ethanol	STEL: 1000 ppm / 1880 mg/m <sup>3</sup> (A3)	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>	

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.		,	5	, ,		,	
Section 9	Physical and chemical pr	operties					
Appearance: Clear, Odor: Mild character Odor threshold: Da pH: 4.7	red liquid. istic odor. ta not available. oint: 0°C (32°F) [water] C (212°F) [water]	Evaporation rate ( Flammability (soli Explosion limits: Vapor pressure (n Vapor density (Air Relative density ( Solubility(ies): Co	d/gas): Data not a Lower / Upper: 4 nm Hg): 14 [water] r = 1): 0.7 [water] Specific gravity):	.0%(V) / 20.0%(V)* ] Approximately 1.0	Auto-igniti Decompos Viscosity: Molecular		Data not available e: Data not available e
Section 10	Stability and reactivity						
Incompatible mater ored. The discolorati Hazardous decomp	: Excessive temperatures, hea ials: Strong oxidizing agents, a on of phenol is catalyzed by iro osition products: Oxides of c	t, sparks, open flame icids, halogens and c n and copper. arbon.		of ignition.	s aluminum, le	ead, magnesium a	and zinc and the phenol is discol-
Section 11	Toxicological information I-rat LD50: 7060 mg/kg ; Inhala						
Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: No component IARC classified: Grou OSHA: No compone CA Prop 65: A WAR cancer and birth defe Reproductive toxici STOT-single exposi STOT-repeated exp Aspiration hazard: Potential health effit Inhalation: Inhealth offit Inhalation: Ingestion Skin: Contact with s Eyes: Contact with e Signs and sympton Additional informat	of this product present at levels up 2B: Possibly carcinogenic to nt of this product present at levels NINGI : This product can expose acts or other reproductive harm. ty: Data not available ure: The substance or mixture osure: Data not available Data not available acts: n may cause dizziness, drowsine causes dizziness, drowsiness, kin causes irritation defatting or eyes may cause corneal damag ns of exposure: See Potential ion: RTECS #: KQ6300000 [E	ere irritant. ble s greater than or equa humans. [Magenta] els greater than or eq se you to chemicals ir is classified as specif ess, nausea, vomitin decreased reaction, e o prolonged contact. e. health effects above.	ual to 0.1% is iden ncluding Methanol ; fic target organ toxi g, inability to conce euphoria, nausea, v	tified as a carcinoger and Methyl isobutyl k icant, single exposur entrate and irritation o	n or potential of ketone, which re, category 3 of the throat.	carcinogen by OS are known to the with narcotic effec	State of California to cause
Section 12	Ecological information						
Toxicity to daphnia Toxicity to algae: Cl Persistence and de Mobility in soil: No Other adverse effec	ts: An environmental hazard c	es: Daphnia magna ( C50 = 9,310 mg/l/grov Bioaccumulat PBT and vPvE	(Crustacia), EC50 = wth rate [Ethanol, a <b>ive potential:</b> No <b>3 assessment:</b> No	= 10,800 mg/l/24 hou absolute] data available o data available	-	9.8% pure]	
Section 13	Disposal considerations						
	delines are intended for the different. Dispose of in acc						
Section 14	Transport information		,	<u> </u>			
•	(6.1) Packing g ited quantity equal to or les		Reportal	n.o.s., (Ethyl alcoh ble Quantity: No G Guide # 131	,	,	rine pollutant: No
Section 15	Regulatory information						
	d to be listed if the CAS number for	-				NDO	
<b>Compone</b> Ethanol Phenol	2111	Listed Listed	CERLCA (RQ) Not listed Not listed	RCRA code D001 U188	DSL Listed Listed	NDSL Not listed Not listed	CA Prop 65 WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.
Section 16	Other information						
							red by them and must make indepen-

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

#### SAFETY DATA SHEET

Section 1 Identification	Page E1 of E2
BENZ MICROSCOPE     Benz Microscope Optics Center, Inc.       3980 Varsity Drive     3980 Varsity Drive       Ann Arbor, MI 48108     Tel: 734-994-3880       Fax: 734-994-3090     email: benzmicroscope@aol.com	CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.
Product CARBOL ROSE BENGAL SOLUTION	
Synonyms None	
Section 2 Hazards identification	
Signal word: DANGER Pictograms: GHS02 / GHS05 / GHS06 / GHS08 Target organs: Kidneys, Liver, Central nervous system, Eyes	<ul> <li>Precautionary statement:</li> <li>P201: Obtain special instructions before use.</li> <li>P202: Do not handle until all safety precautions have been read and understood.</li> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P233: Keep container tightly closed.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P260: Do not breathe mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P270: Do not eat, drink or smoke when using this product.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</li> <li>P310: Immediately call a POISON CENTER or doctor.</li> <li>P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P314: Get medical attention if you feel unwell.</li> <li>P362+P364: Take off contaminated clothing and wash it before reuse.</li> <li>P370+P378: In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or regular foam to extinguish.</li> <li>P403+P235: Store in a well-ventilated place. Keep cool.</li> <li>P405: Store locked up.</li> </ul>
H373: May cause damage to organs through prolonged or repeated exposure.	

#### Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Vesicant, rapidly absorbed through skin Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients				
Chemical Name		CAS #	%	EINECS	
Water		7732-18-5	86.42%	231-791-2	
Ethyl alcohol		64-17-5	7.31 - 7.38%	200-578-6	
Phenol		108-95-2	4.43 - 4.53%	203-632-7	
Isopropyl alcohol		67-63-0	0.77%	200-661-7	
Rose bengal		632-69-9	0.45%	211-183-3	
Methanol		67-56-1	0.34 - 0.37%	200-659-6	
Methyl isobutyl keto	ne	108-10-1	0.08 - 0.09%	203-550-1	

#### Section 4 First aid measures

**INGESTION:** TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE EYE DAMAGE. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SEVERE SKIN BURNS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

#### Section 5 Fire fighting measures

Suitable Extinguishing Media: In case of fire: Use dry chemical, CO2, water spray or regular foam to extinguish.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Yields flammable and toxic vapors when heated. Water containing phenol may cause severe chemical burns. Above 79°C explosive vapor/air mixtures may be formed.

#### Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

#### Section 7 Handling and storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linius.	Phenol	TWA: 5 ppm / 19 mg/m <sup>3</sup> (A4)	TWA: 5 ppm / 19 mg/m <sup>3</sup>	TWA: 5 ppm / 19 mg/m <sup>3</sup>		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: Use only in well ventilated area. Work in fume hood and wear a NIOSH/MSHA-approved respirator.

Section 9	Physical and chemical	properties					
Boiling point: App	Data not available.	Flammability Explosion lim Vapor pressur Vapor density Relative density	ate (Water = 1): >1 (solid/gas): Data not av its: Lower: 4% (V) Up re (mm Hg): 14 (water) (Air = 1): 0.7 (water) (Specific gravity): Approv : Complete in water	per: 20% (V)	Auto-igniti Decompos Viscosity: Molecular		: Data not available re: Data not available. ole. e
Section 10	Stability and reactivity						
Chemical stability Conditions to avo	<ul> <li>y: Stable</li> <li>bid: Avoid overheating. Vapors</li> </ul>		ous polymerization: W tic. Discolors upon prolo				
discolored. The di	<b>terials:</b> Avoid contact with stror scolorization of phenol is cataly	zed by iron and co	oper.	orite. Hot phenol a	ttacks aluminu	um, lead, magnes	sium and zinc and the phenol is
Hazardous decon	nposition products: Carbon o	oxides and phenol f	umes.				
Section 11	Toxicological information	on					
Germ cell mutage Carcinogenity: D NTP: No compone IARC classified: G OSHA: No compone CA Prop 65: W// cancer and birth dr Reproductive tox STOT-repeated ex Aspiration hazarc Potential health enhalation: Inhalation: Inhalation: Inhalation: Ingestion Skin: EASILY ABS Eyes: Contact cau Signs and sympty	in sensitization: Data not ava enicity: Data not available vata not available ant of this product present at lev roup 3: Not classifiable as to its nent of this product present at lev ARNING!: This product can exp efects or other reproductive har icity: Data not available soure: Data not available i: Data not available iffects: AVOID ALL CONTACT ion causes sore throat, burning on causes abdominal pain, conv SORBED! Contact causes serio uses pain, redness, loss of visio oms of exposure: Phenol has imize potential hazards. nation: RTECS #: Phenol: SJ:	rels greater than or carcinogenicity to evels greater than or bose you to chemic m.	humans. [Phenol] r equal to 0.1% is identi als including Methanol a dizziness, headache, na shock or collapse, sore th bness, convulsions, colla ns. se cancer in laboratory a	fied as a carcinoge nd Methyl isobutyl usea, vomiting, sh nroat. apse, unconsciousi	n or potential ( ketone, which ortness of brea	carcinogen by OS are known to the ath, labored breat	State of California to cause
Section 12	Ecological information						
Toxicity to daphn Toxicity to algae: Persistence and c Mobility in soil: N	Disposal consideration Disposal consideration Denote the second constant Denote the second constant Disposal consideration	rates: Daphnia mag EC50 = 9,310 mg/l le Bioaccum PBT and v l cannot be exclude	gna (Crustacea), EC50 = /growth rate [Ethanol, ab ulative potential: No d PvB assessment: No	: 10,800 mg/l/24 ho psolute] ata available data available		99.8% pure]	
	juidelines are intended for th		log-size quantities on	lv. Federal regul	ations may a	poly to empty c	container. State and/or loca
regulations may	be different. Dispose of in a						
Section 14	Transport information						
UN/NA number Hazard class: Exceptions: L		acking group:	Flammable liquids, to II	xic, n.o.s., (Ethy Reportable Qu 2020 SERG Gu	antity: No	,	arine pollutant: No
Section 15	Regulatory information						
	red to be listed if the CAS number f	-			ופת	NDel	CA Bron 65
Compo	nent	Listed	CERLCA (RQ) 1,000 lbs (454 kg)	RCRA code Not listed	DSL Listed	NDSL Not listed	CA Prop 65
Phenol Ethanol		Listed	Not listed	D001	Listed	Not listed	Reproductive Harm - www.P65Warnings.ca.gov
	Other information	Listed	Not listed	D001	Listed	Not listed	

tance international Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Revision Date: September 22, 2020

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#### SAFETY DATA SHEET

GHOLE (Category 2)       contact lenses, if present and easy to do. Continue rinsing.         STOT-SE (Category 3)       P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.         GHS Label information: Hazard statement:       P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.         H225: Highly flammable liquid and vapour.       P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.         H301: Toxic in contact with skin.       P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.	Section 1 Identification	Page E1 of E2
Synonyms       None         Section 2       Hazards identification         Signal word: DANGER       Pictograms: GHS02 / GHS08 / GHS06         Target organs: Eyes, Central nervous system, Liver, Kidneys.       P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.         View       View         View       View         GHS Classification:       Patamable liquid (Category 2)         Flammable liquid (Category 3)       View         Acute toxicity, oral (Category 3)       View         Acute toxicity, inhalation (Category 3)       P240: Ground/bond container and reaeving equipment.         P243: Take precautionary measures against static discharge.       P260: Do not breathe mist/vapours/spray.         P260: Do not breathe mist/vapours/spray.       P260: Do not breathe mist/vapours/spray.         P270: Do not eta: drink or smoke when using this product.       P271: Use only outdoors or in a well-ventilated area.         P280: (Category 2B)       P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.         STOT-SE (Category 3)       P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.         H225: Highly flammable liquid and vapour.       P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.         H301: Toxic is swallowed.       P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.	MICROSCOPE Benz Microscope Optics Center, Inc. 3980 Varsity Drive Ann Arbor, MI 48108 CENTER Tei: 734-994-3880 Fax: 734-994-9090	Phone Number (800) 424-9300 For laboratory and industrial use only.
Section 2       Hazards identification         Signal word: DANGER       Pictograms: GHS02 / GHS08 / GHS06         Target organs: Eyes, Central nervous system, Liver, Kidneys.       P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.         View       View         View       View         GHS Classification:       Flammable liquid (Category 2)         Flammable liquid (Category 3)       View         Acute toxicity, oral (Category 3)       View         Acute toxicity, inhalation (Category 3)       P270: Do not eat, drink or smoke when using this product.         P271: Use only outdoors or in a well-ventilated area.       P280: Wear protective gloves/protective clothing/exportection/face protection.         P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.       P303+P361+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.         P303+P361+P338: IF IN KYES: Hind at and keep comfortable for breathing.       P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.         P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.       P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.	Product CRYSTAL VIOLET, 1% ALCOHOL SOLUTION	
Signal word: DANGER         Pictograms: GHS02 / GHS08 / GHS06         Target organs: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Image: Signal word: DANGER         Image: Signal word: DANGER         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: DANGER         Pictograms: Eyes, Central nervous system, Liver, Kidneys.         Image: Signal word: Category 2)         Acute toxicity, oral (Category 2)         Acute toxicity, inhalation (Category 2)         STOT-SE (Category 2)         STOT-SE	Synonyms None	
Pictograms:GHS02 / GHS08 / GHS06P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.Target organs:Eyes, Central nervous system, Liver, Kidneys.P233+P235: Keep container tightly closed. Keep cool.P240:Ground/bond container and receiving equipment.P241:Use explosion-proof electrical/ventilating/lighting equipment.P242:Use only non-sparking tools.P243:Take precautionary measures against static discharge.P260:Do not breathe mist/vapours/spray.Flammable liquid (Category 2)P264:Acute toxicity, oral (Category 3)P270:Acute toxicity, inhalation (Category 3)P264:Acute toxicity, inhalation (Category 3)P270:STOT-SE (Category 2)P260:STOT-SE (Category 2)P260:STOT-SE (Category 3)P261:GHS Label information:Hazard statement:H225:Highly flammable liquid and vapour.H311:Toxic in sowallowed.H311:Toxic in contact with skin.	Section 2 Hazards identification	
H331 Toxic if inhaled. P361+P364: Take off immediately all contaminated clothing and wash it before reus	<ul> <li>Pictograms: GHS02 / GHS08 / GHS06</li> <li>Target organs: Eyes, Central nervous system, Liver, Kidneys.</li> <li>Acute toxicity, and Category 2)</li> <li>Acute toxicity, oral (Category 3)</li> <li>Acute toxicity, dermal (Category 3)</li> <li>Acute toxicity, inhalation (Category 3)</li> <li>Eye irritation (Category 2B)</li> <li>STOT-SE (Category 2)</li> <li>STOT-SE (Category 3)</li> <li>GHS Label information: Hazard statement:</li> <li>H225: Highly flammable liquid and vapour.</li> <li>H301: Toxic if swallowed.</li> <li>H311: Toxic in contact with skin.</li> <li>H319: Causes serious eye irritation.</li> <li>H331: Toxic i inhaled.</li> <li>H336: May cause drowsiness or dizziness.</li> </ul>	<ul> <li>P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.</li> <li>P233+P235: Keep container tightly closed. Keep cool.</li> <li>P240: Ground/bond container and receiving equipment.</li> <li>P241: Use explosion-proof electrical/ventilating/lighting equipment.</li> <li>P242: Use only non-sparking tools.</li> <li>P243: Take precautionary measures against static discharge.</li> <li>P260: Do not breathe mist/vapours/spray.</li> <li>P264: Wash hands thoroughly after handling.</li> <li>P270: Do not eat, drink or smoke when using this product.</li> <li>P271: Use only outdoors or in a well-ventilated area.</li> <li>P280: Wear protective gloves/protective clothing/eye protection/face protection.</li> <li>P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.</li> <li>P303+P361+P353: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</li> <li>P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.</li> <li>P308+P311: IF exposed or concerned: Call a POISON CENTER or doctor.</li> <li>P337+P313: If eye irritation persists: Get medical attention.</li> <li>P361+P364: Take off immediately all contaminated clothing and wash it before reuse.</li> <li>P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish.</li> <li>P403+P405: Store in a well-ventilated place. Store locked up.</li> <li>P501: Dispose of contents/container to a licensed chemical disposal agency in</li> </ul>

#### Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Cor	nposition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Ethyl alcohol		64-17-5	84.15 - 84.94%	200-578-6	
Isopropyl alcohol		67-63-0	8.91%	200-661-7	
Methanol		67-56-1	3.96 - 4.26%	200-659-6	
Crystal violet, biological sta	in and/or pH indicator	548-62-9	1.0%	208-953-6	
Methyl isobutyl ketone		108-10-1	0.89 - 0.99%	203-550-1	

#### Section 4 First aid measures

**INGESTION:** TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

#### Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

#### Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

#### Section 7 Handling and storage

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal pro	tection		
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Exposure Linits.	Ethanol	STEL: 1000 ppm / 1880 mg/m <sup>3</sup> (A3)	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>	TWA: 1000 ppm / 1900 mg/m <sup>3</sup>

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAnirator word a

approved respirator.								
Section 9	Physical and chemical pr	operties						
Appearance: Clear, Odor: Mild character Odor threshold: Dat pH: Data not availab	colorless liquid. istic odor. ta not available. le. oint: -114°C (-173°F) I°C (165.2-176°F)	Forefites         Evaporation rate ( Butyl acetate = 1): Ca 2         Flammability (solid/gas): Data not available.         Explosion limits: Lower / Upper: 3.3% / 19.0%         Vapor pressure (mm Hg): Ca 50 @ 20°C         Vapor density (Air = 1): Ca 1.5         Relative density (Specific gravity): 0.7919-0.7955°C @ 60/60°F         Solubility(ies): Soluble in water.						
Section 10	Stability and reactivity			1				
Incompatible materi	Stable							
Section 11	Toxicological information							
Skin corrosion/irrita Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: No component IARC classified: Grou OSHA: No component CA Prop 65: A WAR to cause cancer and Reproductive toxici STOT-single exposi STOT-repeated exp Aspiration hazard: Potential health effe Inhalation: Inhalation Ingestion: Ingestion Skin: Contact with sl Eyes: Contact with sl	ation: Skin-rabbit - Slight irritar e/irritation: Eyes-rabbit - Seve sensitization: Data not availa icity: Data not available a not available of this product present at levels up 3: Not classifiable as to its can nt of this product present at levels UNINGI : This product can expose birth defects or other reproduct ty: Data not available urre: The substance or mixture osure: Data not available Data not available ects: n may cause dizziness, drowsines, kin causes irritation defatting or eyes may cause blindness. ns of exposure: See Potential ion: RTECS #: KQ6300000 [5	ere irritant. ble s greater than or equal to 0.1% is identi arcinogenicity to humans. [Isopropanol] els greater than or equal to 0.1% is ider se you to chemicals including Crystal Vi ive harm. is classified as specific target organ too ess, nausea, vomiting, inability to conc decreased reaction, euphoria, nausea, a prolonged contact.	ntified as a carcinoger olet, Methanol, and M kicant, single exposur entrate and irritation o vomiting, staggering	n or potential of Methyl isobutyl re, category 3 of the throat.	carcinogen by OS ketone, which an with narcotic effe	re known to the State of California		
Section 12	Ecological information							
Toxicity to daphnia Toxicity to algae: Ch Persistence and deg Mobility in soil: No Other adverse effec	and other aquatic invertebrat hlorella pyrenoidosa (Algae), E0 gradability: No data available data available ts: An environmental hazard c	water), LC50 = 11,200 mg/l/24 hours [E es: Daphnia magna (Crustacia), EC50 C50 = 9,310 mg/l/growth rate [Ethanol, Bioaccumulative potential: No PBT and vPvB assessment: N- annot be excluded in the event of unpro-	= 10,800 mg/l/24 hou absolute] data available o data available	-	9.8% pure]			
Section 13	Disposal considerations							
		disposal of catalog-size quantities of ordance with all local, state and fed						
Section 14	Transport information	· · · · · · · · · · · · · · · · · · ·	<b>J</b>					
UN/NA number:	UN1170 Shipping	name: Ethanol solution						
Hazard class: 3	Packing	group: II Reporta	ble Quantity: 5,0	00 lbs (2270	) kg) Ma	rine pollutant: No		
Exceptions: Lim	ited quantity equal to or les	s than 1 L 2020 ER	G Guide # 127					
Section 15	Regulatory information							
		the anhydrous form is on the Inventory list.		<b>D</b> 0'		04 D		
Compone	ent	TSCA CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65		
Ethanol Methanol Isopropanol		Listed Not listed Listed 5,000 lbs. Listed Not listed	D001 U154 Not listed	Listed Listed Listed	Not listed Not listed Not listed	WARNING -Cancer and Reproductive Harm - www.P65Warnings.ca.gov.		
Section 16	Other information							
The information contain	ed herein is furnished without warra	nty of any kind. Employers should use this i	nformation only as a su	pplement to othe	er information gathe	ered by them and must make indepen-		

dent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Form 06/2015

Notes: