



Date Issued: February 16, 2011  
Supersedes Date: 11/29/2011

## MATERIAL SAFETY DATA SHEET

### Section 1: Chemical Product and Company Identification

Cat#: SPS-ZN-A  
Part Name: Methylene Blue  
Supplier: Triangle Biomedical Sciences, Inc. (TBS)  
3014 Croasdaile Drive  
Durham, NC 27705  
Phone: 919-384-9393

Emergency Notification: ChemTel Inc. 1-888-255-3924 International +01-813-248-0585

### Section 2: Composition/ Information on Ingredients

Item #	Name	CAS#	% in product
1	Phenothiazin-5-ium, 3,7-bis(dimethylamino)-, chloride	000061734	1
2	Water	007732185	99

#### OSHA (ACGIH) Exposure Limits

CAS#	IDHL	TWA		STEL		CEILING	
		ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
000061734	NE						
	OSHA:	NE	NE	NE	NE	NE	NE
	ACGIH:	NE	NE	NE	NE	NE	NE
007732185	NE						
	OSHA:	NE	NE	NE	NE	NE	NE
	ACGIH:	NE	NE	NE	NE	NE	NE

### Section 3: Hazards Identification

May be irritant if swallowed.

May cause skin, eye and respiratory tract irritation.

Hazard Ratings:

These ratings are TBS' Inc. own assessments of the properties of the material using the ANSI/NFPA 704 Standard.

Additional information can be found by consulting in the NFPA published ratings lists (List 325 and List 49).

If no data is listed the information is not

Health	Flammability	Reactivity
1	----	0
		-----
		0

### Section 4: First Aid Measures

Flush eyes with flowing water for at least 15 minutes.

If breathing is difficult, contact emergency personnel.

If swallowed, do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.

If swallowed, wash out mouth with water if person is conscious.

Remove to fresh air.

Wash skin with deluge of water for at least 15 minutes.

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 5: Fire Fighting Measures**

Flash point, deg F.: no data      Method: no data  
UEL: no data      LEL: no data      Autoignition temperature, deg. F.: no data  
Flammability no data      Flame Propagation no data  
Hazardous Combustion Products: no data

**Section 6: Accidental Release Measures**

Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area, and collection for disposal of spill by trained, properly protected clean up personnel.  
Absorb liquids on absorbent material.  
Contain spilled liquids.  
Use appropriate personal protective equipment.

**Section 7: Handling and Storage**

Store at room temp

**Section 8: Exposure Controls/ Personal Protection**

The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories. Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves.  
Use chemical splash goggles and face shield.  
Use latex or equivalent gloves.

**Section 9: Physical and Chemical Properties**

Formula:	mixture	vapor pressure:	no data
Formula Weight:	mixture	vapor density:	no data
boiling point:	100 C	Specific gravity:	1.01
melting point:	no data	ph:	18 mm Hg
solubility:	miscible	appearance:	liquid

**Section 10: Stability and Reactivity**

Chemical	stable
Conditions to Avoid:	no data
Incompatibility with other	oxidizers
Hazardous Decomposition	oxides of carbon
Hazardous	will not occur

**Section 11: Toxicological Information**

Acute no data  
Subchronic data: no data

**Section 12: Ecological Information**

no data

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NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 13: Disposal Considerations**

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State and Local Regulations.

CAS#	Waste Code	Regulated Name
000061734	not listed	not listed
007732185	not listed	not listed

**Section 14: Transportation Data**

Refer to bill of lading or container label for DOT or other transportation hazard classification, if any.

**UN Number:** 1170

**Section 15: Regulatory Information**

Prop 65 - Column A identifies those items which are known to the State of California to cause cancer. Column B identifies items which are known to the State of California to cause reproductive toxicity.

CAS#	Column A	Column B
000061734	no	no
007732185	no	no

State Regulatory Information :If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

CAS#	
000061734	not listed
007732185	not listed

SARA Toxic Release Chemicals(as defined in Section 313 of SARA Title III)

This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

CAS#	Regulated Name	de minimis conc.	%Rep. Thres.
000061734	not listed	not listed	not listed
007732185	not listed	not listed	not listed

SARA Extremely Hazardous Substances and TPQs

This list includes hazardous chemicals as defined in 29 CFR 1910.1200(c); and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

CAS#	Regulated Name	TPQ (pounds)	EHS-RQ(pounds)
000061734	not listed	not listed	not listed
007732185	not listed	not listed	not listed

CERCLA

The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center at (800) 424-8802.

CAS#	Regulated name	RQ pounds
000061734	Not listed	Not listed
007732185	Not listed	Not listed

**Section 16: Other Information**

**TRIANGLE BIOMEDICAL SCIENCES (TBS)** provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. TBS makes no representation or warranties, either expressed or implied of merchantability, fitness for particular purposes with respect to the information set forth herein or to which the information refers. Accordingly, TBS will not be responsible for damages resulting from the use of or reliance upon this information.

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**END OF MSDS**

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NL = not listed

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Date Issued: February 16, 2011  
Supersedes Date: 11/29/2010

## MATERIAL SAFETY DATA SHEET

### Section 1: Chemical Product and Company Identification

Cat#: SPS-ZN-B  
Part Name: Carbol Fuchsin , Kinyoun  
Supplier: Triangle Biomedical Sciences, Inc. (TBS)  
3014 Croasdaile Drive  
Durham, NC 27705  
Phone: 919-384-9393

Emergency Notification: ChemTel Inc. 1-888-255-3924 International +01-813-248-0585

### Section 2: Composition/ Information on Ingredients

Item #	Name	CAS#	% in product
1	2-Propanol	000067630	1.3
2	Basic fuchsin C.I.42500	000569619	2
3	Ethyl alcohol	000064175	22.5
4	Methane, sulfinylbis-	000067685	7
5	Methanol	000067561	1.3
6	Phenol	000108952	5
7	Water	007732185	60

#### OSHA (ACGIH) Exposure Limits

CAS#	IDHL	TWA		STEL		CEILING	
		ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
000064175	--						
	OSHA: Not	--	--	--	--	--	--
	ACGIH:	1000	1884	--	--	--	--
000067561	6,000						
	OSHA: ACGIH;CA	260	260	--	--	--	--
	ACGIH:	200	262	250	250	--	--
000067630	2,000						
	OSHA: CANADA	980	980	--	--	--	--
	ACGIH:	400	983	500	500	--	--
000067685	NE						
	OSHA: NE	NE	NE	NE	NE	NE	NE
	ACGIH:	NE	NE	NE	NE	NE	NE
000108952	250						
	OSHA: ACGIH;CA	19	19	--	--	--	--
	ACGIH:	5	19	--	--	--	--
000569619	NE						
	OSHA: NE	NE	NE	NE	NE	NE	NE
	ACGIH:	NE	NE	NE	NE	NE	NE
007732185	NE						
	OSHA: NE	NE	NE	NE	NE	NE	NE
	ACGIH:	NE	NE	NE	NE	NE	NE

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 3: Hazards Identification**

Flammable liquid and vapor.

May cause skin, eye and respiratory tract irritation.

Toxic if inhaled.

Toxic if swallowed.

Hazard Ratings:

These ratings are TBS' own assessments of the properties of the material using the ANSI/NFPA 704 Standard.

Additional information can be found by consulting in the NFPA published ratings lists (List 325 and List 49).

If no data is listed the information is not

Health    Flammability    Reactivity

2        ----- 3        ----- 1

**Section 4: First Aid Measures**

Flush eyes with flowing water for at least 15 minutes.

If breathing is difficult, contact emergency personnel.

If swallowed, do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.

If swallowed, wash out mouth with water if person is conscious.

Remove to fresh air.

Wash skin with deluge of water for at least 15 minutes.

**Section 5: Fire Fighting Measures**

Flash point, deg F.: 97 F    Method:    TCC

UEL: 19%    LEL: no data    Autoignition temperature, deg. F.: 3%

Flammability no data    Flame Propagation no data

Hazardous Combustion Products: no data

**Section 6: Accidental Release Measures**

Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area, and collection for disposal of spill by trained, properly protected clean up personnel.

Absorb liquids on absorbent material.

Contain spilled liquids.

Protect personnel from exposure.

Use appropriate personal protective equipment.

**Section 7: Handling and Storage**

Store at room temp

**Section 8: Exposure Controls/ Personal Protection**

The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories.

Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves.

Use chemical splash goggles and face shield.

Use latex or equivalent gloves.

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NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 9: Physical and Chemical Properties**

Formula:	mixture	vapor pressure:	no data
Formula Weight:	mixture	vapor density:	3.2
boiling point:	95 C	Specific gravity:	1
melting point:	no data	ph:	no data
solubility:	miscible	appearance:	redish purple solution

**Section 10: Stability and Reactivity**

Chemical	stable
Conditions to Avoid:	no data
Incompatibility with other	oxidizers
Hazardous Decomposition	oxides of carbon
Hazardous	will not occur

**Section 11: Toxicological Information**

Acute	no data
Subchronic data:	no data

**Section 12: Ecological Information**

no data

**Section 13: Disposal Considerations**

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State and Local Regulations.

CAS#	Waste Code	Regulated Name
000064175	not listed	not listed
000067561	U154	Methyl alcohol
000067630	not listed	not listed
000067685	not listed	not listed
000108952	not listed	not listed
000569619	not listed	not listed
007732185	not listed	not listed

**Section 14: Transportation Data**

Refer to bill of lading or container label for DOT or other transportation hazard classification , if any.

**UN Number:** 1170

**Section 15: Regulatory Information**

Prop 65 - Column A identifies those items which are known to the State of California to cause cancer. Column B identified items which are known to the State of California to cause reproductive toxicity.

CAS#	Column A	Column B
000064175	no	no
000067561	no	no
000067630	no	no
000067685	no	no
000108952	no	no
000569619	Yes	no
007732185	no	no

State Regulatory Information: If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**CAS#**

000064175	FL	MA	MN	PA	WA	
000067561	FL	MA	MN	NJ	PA	WA
000067630	FL	MA	MN	NJ	PA	WA
000067685	not listed					
000108952	FL	MA	MI	MN	NJ	PA
WA						
000569619	FL	MA	MN			
007732185	not listed					

**SARA Toxic Release Chemicals(as defined in Section 313 of SARA Title III)**

This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

<b>CAS#</b>	<b>Regulated Name</b>	<b>de minimis conc.</b>	<b>%Rep. Thres.</b>
000064175	not listed	not listed	not listed
000067561	Methanol	1.0	not listed
000067630	Isopropyl alcohol (manufacturing-strong acid process,	1.0	not listed
000067685	not listed	not listed	not listed
000108952	Phenol	1.0	not listed
000569619	not listed	not listed	not listed
007732185	not listed	not listed	not listed

**SARA Extremely Hazardous Substances and TPQs**

This list includes hazardous chemicals as defined in 29 CFR 1910.1200(c); and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

<b>CAS#</b>	<b>Regulated Name</b>	<b>TPQ (pounds)</b>	<b>EHS-RQ(pounds)</b>
000064175	not listed	not listed	not listed
000067561	not listed	not listed	not listed
000067630	not listed	not listed	not listed
000067685	not listed	not listed	not listed
000108952	Phenol	500/10,000	1,000
000569619	not listed	not listed	not listed
007732185	not listed	not listed	not listed

**CERCLA**

The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center at (800) 424-8802.

<b>CAS#</b>	<b>Regulated name</b>	<b>RQ pounds</b>
000064175	Not listed	Not listed
000067561	Not listed	Not listed
000067630	Not listed	Not listed
000067685	Not listed	Not listed
000108952	Not listed	Not listed
000569619	Not listed	Not listed
007732185	Not listed	Not listed

**Section 16: Other Information**

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**END OF MSDS**

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NNR = not normally required



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## MATERIAL SAFETY DATA SHEET

### Section 1: Chemical Product and Company Identification

Cat#: SPS-ZN-C  
Part Name: Acid Alcohol  
Supplier: Triangle Biomedical Sciences, Inc. (TBS)  
3014 Croasdaile Drive  
Durham, NC 27705  
Phone: 919-384-9393

Emergency Notification: ChemTel Inc. 1-888-255-3924 International +01-813-248-0585

### Section 2: Composition/ Information on Ingredients

Item #	Name	CAS#	% in product
1	2-Propanol	000067630	4.9
2	Ethyl alcohol	000064175	87
3	Hydrogen chloride	007647010	1.4
4	Methanol	000067561	4.9

#### OSHA (ACGIH) Exposure Limits

CAS#	IDHL	TWA		STEL		CEILING	
		ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
000064175	--						
	OSHA:	Not	--	--	--	--	--
	ACGIH:	1000	1884	--	--	--	--
000067561	6,000						
	OSHA:	ACGIH;CA	260	--	--	--	--
	ACGIH:	200	262	250	250	--	--
000067630	2,000						
	OSHA:	CANADA	980	--	--	--	--
	ACGIH:	400	983	500	500	--	--
007647010	50						
	OSHA:	Not	--	--	--	5	7
	ACGIH:	--	--	--	--	5	7.5

### Section 3: Hazards Identification

Extremely flammable liquid and vapor.

Toxic if absorbed through skin.

Toxic if inhaled.

Toxic if swallowed.

Hazard Ratings:

These ratings are TBS' own assessments of the properties of the material using the ANSI/NFPA 704 Standard.

Additional information can be found by consulting in the NFPA published ratings lists (List 325 and List 49).

If no data is listed the information is not

Health    Flammability    Reactivity

2        -----    4        -----    1

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 4: First Aid Measures**

Flush eyes with flowing water for at least 15 minutes.

If breathing is difficult, contact emergency personnel.

If swallowed, do not induce vomiting. Do not give anything to drink. Obtain medical attention without delay.

If swallowed, wash out mouth with water if person is conscious.

Remove to fresh air.

Wash skin with deluge of water for at least 15 minutes.

**Section 5: Fire Fighting Measures**

Flash point, deg F.: 59 F Method: TCC

UEL: 19% LEL: 3% Autoignition temperature, deg. F.: no data

Flammability no data Flame Propagation no data

Hazardous Combustion Products: no data

**Section 6: Accidental Release Measures**

Any information listed below is to be considered in addition to internal guidelines for isolation of spill, containment of spill, removal of ignition sources from immediate area, and collection for disposal of spill by trained, properly protected clean up personnel.

Absorb liquids on absorbent material.

Contain spilled liquids.

Protect personnel from exposure.

Use appropriate personal protective equipment.

**Section 7: Handling and Storage**

Store at room temp

**Section 8: Exposure Controls/ Personal Protection**

The use of eye protection in the form of safety glasses with side shields and the use of skin protection for hands in the form of gloves are considered minimum and non-discretionary in work places and laboratories.

Any recommended personal protection equipment or environmental equipment is to be considered as additional to safety glasses and gloves.

Use chemical splash goggles and face shield.

Use latex or equivalent gloves.

Use process enclosures, local exhaust ventilation, or other engineering controls.

**Section 9: Physical and Chemical Properties**

Formula: mixture vapor pressure: 40 mm Hg

Formula Weight: mixture vapor density: 1.6

boiling point: 78 C Specific gravity: 0.787

melting point: no data ph: no data

solubility: miscible appearance: colorless liquid

**Section 10: Stability and Reactivity**

Chemical stable

Conditions to Avoid: no data

Incompatibility with other oxidizers

Hazardous Decomposition oxides of carbon

Hazardous will not occur

**Section 11: Toxicological Information**

Acute no data

Subchronic data: no data

NA = not applicable

NL = not listed

NE = not established

NNR = not normally required

**Section 12: Ecological Information**

no data

**Section 13: Disposal Considerations**

The following chart lists the status of the chemical and its components in reference to 40 CFR Part 261.33. If the product is listed by code number the substance may be subject to special federal and state disposal regulations. If no codes are listed the material must be disposed in compliance with all Federal, State and Local Regulations.

CAS#	Waste Code	Regulated Name
000064175	not listed	not listed
000067561	U154	Methyl alcohol
000067630	not listed	not listed
007647010	not listed	not listed

**Section 14: Transportation Data**

Refer to bill of lading or container label for DOT or other transportation hazard classification , if any.

**UN Number:** 1170**Section 15: Regulatory Information**

Prop 65 - Column A identifies those items which are known to the State of California to cause cancer. Column B identified items which are known to the State of California to cause reproductive toxicity.

CAS#	Column A	Column B
000064175	no	no
000067561	no	no
000067630	no	no
007647010	no	no

State Regulatory Information :If a CAS# is listed below this material is subject to the listed state right-to-know requirements.

CAS#	FL	MA	MN	PA	WA	
000064175	FL	MA	MN	PA	WA	
000067561	FL	MA	MN	NJ	PA	WA
000067630	FL	MA	MN	NJ	PA	WA
007647010	FL	MA	MN	NJ	PA	WA

**SARA Toxic Release Chemicals(as defined in Section 313 of SARA Title III)**

This list identifies the toxic chemicals, including their de minimis concentrations for which reporting is required under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). The list is also referred to as the Toxics Release Inventory (TRI) List.

CAS#	Regulated Name	de minimis conc.	%Rep. Thres.
000064175	not listed	not listed	not listed
000067561	Methanol	1.0	not listed
000067630	Isopropyl alcohol (manufacturing-strong acid process,	1.0	not listed
007647010	Hydrochloric acid (acid aerosols including mists,	1.0	not listed

**SARA Extremely Hazardous Substances and TPQs**

This list includes hazardous chemicals as defined in 29 CFR 1910.1200(c); and extremely hazardous substances regulated under Section 302 of SARA Title III with their TPQs (in pounds), as listed in 40 CFR 355, Appendices A and B.

CAS#	Regulated Name	TPQ (pounds)	EHS-RQ(pounds)
NA = not applicable	NL = not listed	NE = not established	NNR = not normally required

000064175	not listed	not listed	not listed
000067561	not listed	not listed	not listed
000067630	not listed	not listed	not listed
007647010	Hydrogen chloride (gas only)	500	5,000

**CERCLA**

The hazardous substances, and their reportable quantities (RQs) are listed in the federal regulations at 40 CFR Part 302, Table 302.4. Release of a CERCLA hazardous substance in an amount equal to or greater than its RQ, in any 24-hour period, must be reported to the National Response Center at (800) 424-8802.

<b>CAS#</b>	<b>Regulated name</b>	<b>RQ pounds</b>
000064175	Not listed	Not listed
000067561	Not listed	Not listed
000067630	Not listed	Not listed
007647010	Not listed	Not listed

**Section 16: Other Information**

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**END OF MSDS**

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NA = not applicable

NL = not listed

NE = not established

NNR = not normally required