



Safety Data Sheet

Classified according to WHMIS 2015

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: Toluidine Blue Stain, 1% (w/v) in 20% (v/v) Alcohol with 1% (v/v) Acetic Acid
for Staining and Detection of Basal Cell Carcinoma on Frozen Sections

Product Number: 8655

Other Identifying Product Numbers: 8655-16, 8655-4

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Ricca Chemical Company

Address: 448 West Fork Drive

Arlington, TX 76012 USA

Telephone: 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
Skin Corrosion / Irritation	Category 2	H315	P264, P280, P302+P352, P321, P332+P313, P362
Eye Damage / Irritation	Category 2A	H319	P264, P280, P305+P351+P338, P337+P313
Respiratory Sensitizer	Category 1	H334	P261, P285, P304+P341, P342+P311, P501
Germ Cell Mutagenicity	Category 1	H340	P201, P202, P280, P308+P313, P405, P501
Reproductive Toxicity	Category 1	H360	P201, P202, P280, P308+P313, P405, P501
Specific Target Organs/Systemic Toxicity Following Single Exposure	Category 1	H370	P260, P264, P270, P307+P311, P321, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 1	H372	P260, P264, P270, P314, P501
Flammable Liquids	Category 4	H227	P210, P280, P370+P378, P403+P235, P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H227	Combustible liquid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H360	May damage fertility or the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.

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Precautionary Statements:

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks and open flame. No smoking.
P260	Do not breathe fumes, mist, vapors, or spray.
P261	Avoid breathing fumes, mist, vapors, or spray.
P264	Wash arms, hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves and eye protection.
P285	In case of inadequate ventilation wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P341	IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307+P311	IF exposed: Call a POISON CENTER or physician.
P308+P313	IF exposed or concerned: Get medical attention.
P314	Get medical attention if you feel unwell.
P321	Specific treatment (Wash areas of contact with water).
P332+P313	If skin irritation occurs: Get medical attention.
P337+P313	If eye irritation persists: Get medical attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or physician.
P362	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

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SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	81.42
Ethyl Alcohol	CH ₃ CH ₂ OH	46.06 g/mol	64-17-5	15.66
Acetic Acid	CH ₃ COOH	60.05 g/mol	64-19-7	1.09
Toluidine Blue O	C ₁₅ H ₁₆ ClN ₃ S	305.82 g/mol	92-31-9	1.04
Methyl Alcohol	CH ₃ OH	32.04 g/mol	67-56-1	0.78

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

Inhalation: IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN: Wash with plenty of soap and water. Results in drying and cracking which can lead to secondary infections and dermatitis.

Ingestion: Dilute immediately with water or milk. Induce vomiting. Call a physician.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. CAUTION! May be harmful if swallowed. If ingested, give large quantity of water and induce vomiting. Call a physician. This item is slightly corrosive and should be handled with care. Wash areas of contact with plenty of water. For eyes, get medical attention. EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: Results in drying and cracking which can lead to secondary infections and dermatitis.

4.3. Medical Attention or Special Treatment Needed

Specific treatment (Wash areas of contact with water). Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Dilute immediately with water or milk. Induce vomiting. Call a physician.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam or carbon dioxide to extinguish. Use dry chemical, alcohol foam, or carbon dioxide for extinguishing the surrounding fire.



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5.2. Specific Hazards Arising from the Substance or Mixture

Combustible liquid. Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable inert material (vermiculite, dry sand, etc) and place in a chemical waste container for proper disposal. Do not flush to sewer. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store at controlled room temperature, 15 - 30oC.

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SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Ethyl Alcohol (64-17-5)	TWA	USA	1000 ppm TWA; 1900 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Ethyl Alcohol (64-17-5)	TLV-STEL	USA	1000 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Acetic Acid (64-19-7)	TWA	USA	10 ppm TWA; 25 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Acetic Acid (64-19-7)	TLV-STEL	USA	15 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Acetic Acid (64-19-7)	TLV-TWA	USA	10 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TWA	USA	200 ppm TWA; 260 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	250 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	200 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

8.2. Exposure Controls

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

Respiratory Protection: In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.



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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Dark blue liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: 2.8

Melting/Freezing Point: Approximately 0°C

Initial Boiling Point/Range: Approximately 98°C - Approximately 98°C

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 0.96

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, sparks and open flame. No smoking. Oxidizers, platinum, Sodium, Potassium Dioxide, Bromine Pentafluoride, Acetyl Bromide, Acetyl Chloride, heat, sparks, open flame.



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10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: (Methanol) 5628 mg/kg, (Ethanol) 7060 mg/kg, (Acetic Acid): 3310 mg/kg, details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Causes skin irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF ON SKIN: Wash with plenty of soap and water. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.

Serious Eye Damage and Irritation:

Causes serious eye irritation. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Respiratory Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing fumes, mist, vapors, or spray. In case of inadequate ventilation wear respiratory protection. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Dispose of contents in accordance with local, state, federal and international regulations.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

May cause genetic defects. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Carcinogenicity:

Not applicable.



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Reproductive Toxicity:

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:

Causes damage to organs. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. IF exposed: Call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water). Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.



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SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.

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SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Acetic Acid (CAS # 64-19-7): 5000 lb final RQ; 2270 kg final RQ

Methyl Alcohol (CAS # 67-56-1): 5000 lb final RQ; 2270 kg final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Methyl Alcohol (CAS # 67-56-1): 1.0 % de minimis concentration

15.5. Massachusetts Right-to-Know Substance List

Ethyl Alcohol (CAS # 64-17-5): Teratogen

Acetic Acid (CAS # 64-19-7): Present

Methyl Alcohol (CAS # 67-56-1): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ethyl Alcohol (CAS # 64-17-5): Present

Acetic Acid (CAS # 64-19-7): Environmental hazard

Acetic Acid (CAS # 64-19-7): Present

Methyl Alcohol (CAS # 67-56-1): Environmental hazard

Methyl Alcohol (CAS # 67-56-1): Present

Water (CAS # 7732-18-5): Present

15.7. New Jersey Worker and Community Right-to-Know Components

Ethyl Alcohol (CAS # 64-17-5): carcinogen; flammable - third degree; mutagen; teratogen

Ethyl Alcohol (CAS # 64-17-5): sn 0844

Acetic Acid (CAS # 64-19-7): corrosive

Acetic Acid (CAS # 64-19-7): sn 0004

Methyl Alcohol (CAS # 67-56-1): flammable - third degree; teratogen

Methyl Alcohol (CAS # 67-56-1): sn 1222

Methyl Alcohol (CAS # 67-56-1): SN 1222 500 lb TPQ

15.8. California Proposition 65

Ethyl Alcohol (CAS # 64-17-5): carcinogen, 4/29/2011 (in alcoholic beverages)

Ethyl Alcohol (CAS # 64-17-5): carcinogen, 7/1/1988 (when associated with alcohol abuse)

Ethyl Alcohol (CAS # 64-17-5): developmental toxicity, 10/1/1987 (in alcoholic beverages)

Methyl Alcohol (CAS # 67-56-1): developmental toxicity, 3/16/2012

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15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Ethyl Alcohol (CAS # 64-17-5): Present (DSL)
Ethyl Alcohol (CAS # 64-17-5): Present (NDSL)
Acetic Acid (CAS # 64-19-7): Present (DSL)
Acetic Acid (CAS # 64-19-7): Present (NDSL)
Methyl Alcohol (CAS # 67-56-1): Present (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (NDSL)
Water (CAS # 7732-18-5): Present (DSL)
Toluidine Blue O (CAS # 92-31-9): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Ethyl Alcohol (CAS # 64-17-5): Present
Acetic Acid (CAS # 64-19-7): Present
Methyl Alcohol (CAS # 67-56-1): Present
Water (CAS # 7732-18-5): Present
Toluidine Blue O (CAS # 92-31-9): Present

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Ethyl Alcohol (CAS # 64-17-5): 200-578-6
Ethyl Alcohol (CAS # 64-17-5): 213-128-9
Ethyl Alcohol (CAS # 64-17-5): 270-649-4
Acetic Acid (CAS # 64-19-7): 200-580-7
Acetic Acid (CAS # 64-19-7): 212-059-1
Acetic Acid (CAS # 64-19-7): 214-693-4
Acetic Acid (CAS # 64-19-7): 273-079-4
Methyl Alcohol (CAS # 67-56-1): 200-659-6
Methyl Alcohol (CAS # 67-56-1): 212-378-6
Methyl Alcohol (CAS # 67-56-1): 217-435-9
Methyl Alcohol (CAS # 67-56-1): 270-649-4
Water (CAS # 7732-18-5): 231-791-2
Water (CAS # 7732-18-5): 232-148-9
Toluidine Blue O (CAS # 92-31-9): 202-146-2

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SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

Combustible liquid. Causes skin irritation. Causes serious eye irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause genetic defects. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks and open flame. No smoking. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves and eye protection. In case of inadequate ventilation wear respiratory protection.

IF ON SKIN: Wash with plenty of soap and water. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed: Call a POISON CENTER or physician. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water). If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. If experiencing respiratory symptoms: Call a POISON CENTER or physician. Take off contaminated clothing and wash it before reuse. In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

Store in a well-ventilated place. Keep cool. Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

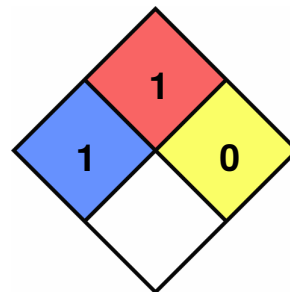
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 1
Flammability: 1
Reactivity: 0
Special Hazard:





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16.4. Document Revision

Last Revision Date: 2022-06-04

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.