

Safety Data Sheet

Methylene Blue – Azure B Staining Solution

Section 1 - Chemical Product and Company Identification

SDS Name: Methylene Blue – Azure B Staining Solution

Catalog Numbers: B-155-2

Company Identification: Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.
10 ELECTRONICS AVENUE
DANVERS, MA 01923

For information, call: 978-739-4883

Emergency Number: 800-424-9300

For CHEMTREC assistance, call: 800-424-9300

Section 2 - Hazards Identification

GHS Classifications

H360-Reproductive toxicity: 1B

Pictograms or Hazard symbols and Hazard statement(s):



Signal Word: Danger

Hazard Statements:

H360-May damage fertility or the unborn child

Precautionary Statements:

P201-Obtain special instructions before use.

P202-Do not handle until all safety precautions have been read and understood.

P280-Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313-If exposed or concerned: Get medical advice/attention.

P405-Store locked up.

P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
7220-79-3	Methylene Blue	0.25 w/v
531-55-5	Azure B	0.25 w/v
1303-96-4	Sodium Tetraborate Decahydrate	0.25 w/v
7732-18-5	Water	Balance

Section 4 - First Aid Measures

Eye Exposure: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get medical attention.

Dermal Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention.

Oral Exposure: If swallowed, get immediate medical advice. Do not induce vomiting. Rinse mouth with water and drink small quantities of water (stop if the exposed person feels sick as vomiting may be dangerous).

Inhalation Exposure: If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides, sulfur oxides, borane/boron oxides, sodium oxides, hydrogen chloride gas, irritating and toxic fumes and gases.

Flash Point: Not available

Autoignition Temperature: Not available

Explosion Limits, Lower: Not available

Upper: Not available

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s):

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation.

Methods for Cleaning up: Absorb with sand, earth, or vermiculite. Carefully sweep up and containerize for proper disposal. Do not release to the environment. Do not release to drains.

Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Ensure adequate ventilation. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Keep in a tightly closed container. Store in a cool, dry, and well-ventilated area. Keep away from incompatible materials.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Exposure Limits:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Methylene Blue CAS# 7220-79-3	Not listed	Not listed	Not listed
Azure B CAS# 531-55-5	Not listed	Not listed	Not listed
Sodium Tetraborate Decahydrate CAS# 1303-96-4	2 mg/m ³ TWA 6 mg/m ³ STEL	5 mg/m ³ TWA	10 mg/m ³ TWA (vacated)

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: Dark Blue
Odor: Odorless
Vapor Pressure: Not available
Odor Threshold: Not available
Vapor Density: Not available
pH: Not available
Relative Density: Not available
Melting point/freezing point: Not available
Solubility: Soluble in water
Boiling Point: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability (solid, gas): Not available
Partition coefficient: n-octanol/water: Not available
Autoignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available
Specific Gravity/Density: Not available

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials and excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, metallic salts, and finely powdered metals.
Hazardous Decomposition Products: Carbon oxides, nitrogen oxides, sulfur oxides, borane/boron oxides, sodium oxides, hydrogen chloride gas, irritating and toxic fumes and gases.

Section 11 - Toxicological Information

CAS#7220-79-3 Methylene Blue: RTECS#: SP5740000

LD50 Oral: 1180 mg/kg (rat)
LD50 Dermal: Not available
LC50 Inhalation: Not available

Carcinogenicity: Methylene Blue CAS#7220-79-3 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

CAS#531-55-5 Azure B: RTECS#: SO5550000

LD50 Oral: 500.1 mg/kg (expert judgement)
LD50 Dermal: Not available
LC50 Inhalation: Not available

Carcinogenicity: Azure B CAS#531-55-5 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

CAS#1303-96-4 Sodium Tetraborate Decahydrate: RTECS#: VZ2275000

LD50 Oral: 2660 mg/kg (rat)

LD50 Dermal: >2000 mg/kg (rabbit)

LC50 Inhalation: 2.03 mg/L (rat)

Carcinogenicity: Sodium tetraborate decahydrate CAS#1303-96-4 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

Reproductive effects: Experiments have shown reproductive toxicity effects on laboratory animals. Paternal effects include: testes, epididymis, and sperm duct. Maternal effects include: ovaries and fallopian tubes.

Information on the likely routes of exposure: Routes of entry anticipated: oral, dermal, inhalation, and eye.

Epidemiology: Not available.

Teratogenicity: Not available.

Reproductive Effects: May damage fertility or the unborn child (Sodium Tetraborate Decahydrate).

Developmental Effects: Not available.

Neurotoxicity: Not available.

Mutagenicity: Not available.

Specific Target Organ Toxicity, Single Exposure: Not available.

Specific Target Organ Toxicity, Repeated Exposure: Not available.

Symptoms associated with exposure: May damage fertility. May cause harm to the unborn child. Although no specific data is available, eye exposure may cause irritation, redness, itching, and pain. Skin exposure may cause irritation, redness, and dermatitis. Ingestion may cause irritation, nausea, vomiting, and diarrhea. Inhalation may cause respiratory tract irritation. Overexposure may lead to stomach irregularities.

The toxicological properties of this material have not been thoroughly investigated.

Section 12 - Ecological Information

Ecotoxicity: Do not release to the environment. Do not release to drains.

CAS#7220-79-3 Methylene Blue:

LC50, freshwater fish: 45 mg/L 96h (pimephales promelas)(fathead minnow)

EC50, water flea: 2260 mg/L 48h

CAS#1303-96-4 Sodium Tetraborate Decahydrate:

LC50, freshwater fish: 708 mg/L 96h (pimephales promelas)(fathead minnow)

EC50, freshwater algae: 158 mg/L 96h

LC50, water flea: 1085-1402 mg/L 48h

Persistence and degradability: Not available.

Bio-accumulative potential: Not available.

Mobility: Will likely be mobile in the environment due to its water solubility.

Section 13 - Disposal Considerations

DISPOSAL: Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information

DOT

Non-Regulated

Section 15 - Regulatory Information

Canada Regulatory Information

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information

SDS Creation Date: 11-15-17

Revision #1: 2-25-22

Revision #2: 8-14-24

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