

SPI Supplies Division

Structure Probe, Inc.

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Manufacturer's CAGE: 1P573

Safety Data Sheet

Date Effective: November 7, 2018

SPI Catalog #'s 02576-AB, 02576-MB

SPI-Chem™ Toluidine Blue O

Section 1.1: Identification

Chemical Name/Synonyms Toluidine Blue O; Basic Blue 17; Dimethyltoluthionine chloride;
3-Amino-7-(dimethylamino)-2-methylpehnolthiazin-5-ium chloride; Tolonium chloride

Product or Trade Name SPI-Chem™ Toluidine Blue O

CAS #'s 92-31-9

Chemical Formula..... C₁₅H₁₆ClN₃S

RTECS #..... SP5670000

Section 1.2: Relevant Uses/Restrictions

Chemical stain for light microscopy applications.

For Research and Development Use only.

Not for use for Manufacturing or Commercial Purposes.

Section 1.3: Supplier of the Safety Data Sheet

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Section 1.4: Emergency telephone number

Emergencies

Contacting CHEMTREC:

24 Hour Emergency Use Only #'s...

Worldwide phone: 1-(703)-741-5970

Toll-free phone: 1-(800)-424-9300 USA + Canada only

Section 2: Hazard Identification

2.1 Classification of the substance

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

- Acute toxicity (category 4)
- Skin irritation (category 2)
- Eye irritation (category 2B)

2.2 Label elements

Pictogram



Signal Word: Warning

Hazard statements:

- H332 Harmful if inhaled.
- H315 Causes skin irritation.
- H320 Causes eye irritation.

Precautionary statements:

- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
- P304 + P340 IF INHALED: 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.
- P312 Call a POISON CENTER if you feel unwell.
- P322 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash it before reuse.
- P402 + P404 Store in a dry place. Store in a closed container.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P420 Store away from oxidizing agents.

2.3 Other Hazards: No further relevant information available.

Hazardous Material Information System USA

- Health 1
- Fire Hazard 0
- Reactivity 0
- Personal Protection

NFPA Rating (estimated)

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

Section 3: Composition

3.1 Substances:

Toluidine Blue O

CAS # 92-31-0

EC # 202-146-5

>98%

Molecular weight: 305.82 g/mol

Section 4: First Aid Measures

4.1 Description of first aid measures:

Inhalation:

If inhaled, move person to fresh air. If not breathing give artificial respiration.

Skin Contact:

In case of skin contact, wash off with soap and plenty of water.

Eye Contact:

In case of eye contact, flush eyes with water as a precaution.

Ingestion:

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed:

The most important known symptoms and effects are described in the labelling (see Section 2.2) and/or in Section 11.

4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

Section 5: Fire Fighting Measures

5.1 Extinguishing media:

Suitable extinguishing media: water spray, alcohol-resistant foam, dry chemical or Carbon dioxide.

5.2 Special hazards arising from the substance or mixture:

No data available.

5.3 Hazardous combustion products:

In combustion, emits toxic fumes.

5.4 Advice for firefighters:

Special protective equipment and precautions for firefighters:

Wear a NIOSH approved positive pressure self-contained breathing apparatus and firefighter turnout gear. This should be selected on the basis of the supporting fire. Avoid having the fumes come in contact with skin and eyes.

Section 6: Accidental Release Measures

6.1 Personal precautions:

Avoid dust formation.

Avoid breathing vapors, mist, or gas.

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

6.2 Environmental precautions:

Do not discharge into drains or water courses.

6.3 Methods and material for containment and cleaning up:

Pick up with dry cloth or sweep up and retain in suitable, closed containers for disposal.
Do not flush spilled material to the sewer or the environment.

6.4 Reference to other sections:

See Section 8 for personal protection information.
See Section 13 for disposal information.

Section 7: Handling and Storage

7.1 Precautions for safe handling:

Use only in well-ventilated areas.
Avoid the formation or spread of dust in the air.
Avoid direct contact with the substance.
Wear suitable gloves if prolonged exposure is contemplated.

:

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, well-ventilated area.
Keep container tightly closed.
Keep away from direct sunlight.
Avoid contact with water or humidity.
Store in original container.

7.3 Specific end uses:

Chemical stain for light microscopy applications.
This material is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption.

Section 8: Exposure Controls and Personal Protection

8.1 Control parameter and Personal Protection:

Workplace exposure limits: Contains no substances with occupational exposure limit values.

Biological limit values: No data available.

8.2 Exposure controls:

This product does not present a significant hazard in normal laboratory use as a light microscopy stain. The data provided below refer to prolonged contact with large quantities of the product.

8.2.1 Appropriate engineering controls:

Ensure adequate mechanical ventilation available to the area.

8.2.2 Individual protection measures:

Respiratory protection: Use respiratory protective device with particle filter. Self-contained breathing apparatus must be available in case of emergency. Use NIOSH/MSHA or European Standard EN 149 approved respirator where needed.

Hand protection: Use protective gloves to prevent skin exposure.

Eye protection: Use Chemical Safety Goggles. Ensure eye bath is readily available.

Skin protection: Use protective clothing with elastic cuffs and closed neck. Boots should be made of PVC.

8.2.3 Environmental exposure controls:

Do not discharge into drains or water courses.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties:

Appearance: Dark green powder

Odor: Characteristic

Odor threshold: No data available

pH: No data available

Melting point/Freezing point: No data available

Boiling point/Boiling point range: No data available

Flash Point: No data available

Evaporation rate: Negligible

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: No data available

Vapor density: No data available

Relative density: No data available

Solubility: Soluble in water. Soluble in ethanol.

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: Not classified as explosive

Oxidizing Properties: Non oxidizing

9.2 Other information: No data available

Section 10: Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Chemical Stability: Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions: No data available.

10.4 Conditions to avoid: Excessive heat, humidity, sunlight.

10.5 Incompatible materials: Strong oxidizing agents.

10.6 Hazardous decomposition products: In combustion, the material emits toxic fumes of Carbon monoxide, Carbon dioxide, Hydrogen chloride, Nitrogen oxides, Sulfur oxides.

Section 11: Toxicological Information

Information on the likely routes of exposure:

RTECS # SP5670000

11.1 Information on toxicological effects:

A. Acute toxicity

TDL ₀	Human, man	43 mg/kg/6D	Gastrointestinal – nausea or vomiting
LD ₅₀	Rodent, rat	215 mg/kg	Intraperitoneal
LD ₅₀	Rodent, rat	28.93 mg/kg	Intravenous - convulsions or effect on seizure threshold
LD ₅₀	Rodent, mouse	27.56 mg/kg	Intravenous - convulsions or effect on seizure threshold

B. Skin corrosion/irritation

There may be mild irritation at the site of contact.

C. Serious eye damage/irritation

There may be irritation and redness.

D. Respiratory or skin sensitization

No data available.

E. Germ cell mutagenicity

Cytogenesis analysis Hamster, ovary 20 µmol/L/5H (continuous)

Mutation in microorganisms Bacteria – Salmonella typhimurium 50 µ/plate

F. Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

G. Reproductive toxicity: No data available.

H. STOT-single exposure: No data available.

I.. STOT-repeated exposure: No data available.

J. Aspiration hazard: No data available.

Section 12: Ecological Information

12.1 Toxicity: No data available.

12.2 Persistence and degradability: No data available.

12.3 Bio-accumulative potential: No data available.

12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: This product is not identified as a PBT/vPvB substance.

12.6 Other adverse effects: No data available.

Section 13: Disposal Considerations

13.1 Waste treatment methods:

Section 14: Transport Information

DOT: Not dangerous goods.

IATA: Not dangerous goods.

IMDG: Not dangerous goods.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture:

SARA 302:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards:

No SARA Hazards.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Water Act:

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A or Table 117.3.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

CANADA:

Canada – DSL/NDSL

CAS # 92-31-9 is listed on Canada' DSL List.

Canada – WHMIS

This product has a WHMIS classification of D2B.

15.2 Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

Date of Preparation: 07 November 2018

Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CMRG: Chemical Manufacturer's Recommended Guidelines
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bio-accumulative and Toxicological
vPvB: very Persistent and very Bio-accumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety Health
ATE: Acute Toxicity Estimates
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
STEL: Short Term Exposure Limit
CEIL: Ceiling
TSCA: Toxic Substances Control Act (USA)
DSL: Domestic Substances List (Canada)
PICCS: Philippine Inventory of Chemicals and Chemical Substances
ENCS: Existing and New Chemical Substances (Japan)
AICS: Australian Inventory of Chemical Substances
IECSC: Inventory of Existing Chemical Substances in China
KECL: Korea Existing Chemicals List

Section 16: Other Information

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