



Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

Creation Date 20-Jul-2009

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Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Methylene Blue Trihydrate
Cat No. :	BP117100; M235100; M29125; M291100
Synonyms	Phenothiazin-5-ium, 3,7-bis(dimethylamino)-, chloride, trihydrate; C.I. Basic Blue 9, t
Recommended Use	Laboratory chemicals
Company Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Harmful if swallowed. May be harmful if inhaled. Causes eye, skin, and respiratory tract irritation. May cause methemoglobinemia.

Appearance Dark green

Physical State Solid

Odor odorless

Target Organs Blood, Central nervous system (CNS)

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

Irritating to eyes.

Skin

Irritating to skin. May be harmful in contact with skin.

Inhalation

Irritating to respiratory system. May be harmful if inhaled.

Ingestion

Harmful if swallowed. May cause methemoglobinemia. Effects may be delayed 2 to 4 hours. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Experiments have shown reproductive toxicity effects on laboratory animals. Teratogenic effects have occurred in experimental animals..

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Respiratory disorders. Blood disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Methylene blue trihydrate	7220-79-3	> 98
Methylene blue	61-73-4	-

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting. Call a physician or Poison Control Center immediately.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point	Not applicable
Method -	No information available.
Autoignition Temperature	No information available.
Explosion Limits	
Upper	No data available
Lower	No data available
Unsuitable Extinguishing Media	No information available.
Hazardous Combustion Products	No information available.
Sensitivity to mechanical impact	No information available.
Sensitivity to static discharge	No information available.

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA **Health** 2 **Flammability** 1 **Instability** 0 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation.
Environmental Precautions	Should not be released into the environment
Methods for Containment and Clean Up	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal.

7. HANDLING AND STORAGE

Handling	Ensure adequate ventilation. Wear personal protective equipment. Avoid dust formation.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures	Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.
Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Personal Protective Equipment	
Eye/face Protection	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 and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure
Respiratory Protection	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Dark green
Odor	odorless
Odor Threshold	No information available.
pH	3 - 4.5 (1 % Solution)
Vapor Pressure	negligible
Vapor Density	(Air = 1.0)
Viscosity	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	190°C / 374°F
Decomposition temperature	No information available.
Flash Point	Not applicable
Evaporation Rate	No information available.
Specific Gravity	1.230
Solubility	Slightly soluble in water
log Pow	No data available
Molecular Weight	373.90
Molecular Formula	C ₁₆ H ₁₈ ClN ₃ S ₃ H ₂ O

10. STABILITY AND REACTIVITY

Stability	Light sensitive. Stable under recommended storage conditions.
Conditions to Avoid	Protect from light. Avoid dust formation. Excess heat.
Incompatible Materials	Oxidizing agents, Reducing agents, Bases
Hazardous Decomposition Products	Chlorine, Nitrogen oxides (NO _x), Carbon monoxide (CO), Sulfur oxides, Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur

Hazardous Reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION**Acute Toxicity****Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene blue	1180 mg/kg (Rat)	Not listed	Not listed

Irritation

Irritating to eyes, respiratory system and skin

Toxicologically Synergistic Products

No information available.

Chronic Toxicity**Carcinogenicity**

There are no known carcinogenic chemicals in this product

Sensitization

No information available.

Mutagenic Effects

Mutagenic effects have occurred in experimental animals.

Reproductive Effects

Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects

No information available.

Teratogenicity

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated.. See actual entry in RTECS for complete information.

Endocrine Disruptor Information

No information available

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Do not empty into drains

Persistence and Degradability

No information available

Bioaccumulation/ Accumulation

No information available

Mobility

No information available

13. DISPOSAL CONSIDERATIONS**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Methylene blue	X	X	-	200-515-2	-		X	X	X	X	X

Legend:

- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313
Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act
Not applicable

Clean Air Act
Not applicable

OSHA Occupational Safety and Health Administration
Not applicable

CERCLA
Not Applicable

California Proposition 65
This product does not contain any Proposition 65 chemicals.

State Right-to-Know
Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

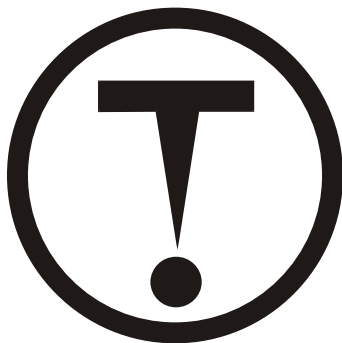
Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
D2A Very toxic materials
D2B Toxic materials



16. OTHER INFORMATION

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Revision Summary "****", and red text indicates revision

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS