

SAFETY DATA SHEET

Methylene Blue

Section 1: Identification

Product name: Methylene Blue

Chemical name: Methylthioninium chloride

CAS number: 7220-79-3

Molecular formula: C₁₆H₁₈ClN₃S

Molecular weight: 319.85 g/mol

Recommended use: Laboratory research use only

Uses advised against:
Not for food, drug, cosmetic or household use.

Section 2: Hazard(s) identification

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Acute Toxicity (oral) – Category 4
Eye Irritation – Category 2

Signal word: Warning

Hazard statements

H302 Harmful if swallowed
H319 Causes serious eye irritation

Precautionary statements

P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P280 Wear protective gloves, protective clothing and eye protection

P301+312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes

Section 3: Composition / information on ingredients

Substance: Methylthioninium chloride

CAS number: 7220-79-3

Molecular formula: C₁₆H₁₈CIN₃S

Molecular weight: 319.85 g/mol

The product is supplied as a single substance for laboratory use.

Section 4: First aid measures

General advice

Seek medical attention if symptoms occur.

Inhalation

Move person to fresh air. If irritation or discomfort occurs, seek medical attention.

Skin contact

Wash thoroughly with soap and water. Remove contaminated clothing.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.

Ingestion

Rinse mouth with water. Do not induce vomiting unless directed by medical personnel.

Section 5: Fire-fighting measures

Suitable extinguishing media

Water spray, dry chemical, foam or carbon dioxide.

Hazardous combustion products

Carbon oxides, nitrogen oxides, sulfur oxides and hydrogen chloride may form during combustion.

Advice for firefighters

Wear self-contained breathing apparatus and protective clothing.

Section 6: Accidental release measures

Personal precautions

Avoid dust formation. Ensure adequate ventilation. Wear appropriate protective equipment.

Environmental precautions

Prevent release into drains and waterways.

Methods for cleaning up

Collect spilled material carefully and place in a suitable container for disposal. Avoid dispersing dust.

Section 7: Handling and storage

Handling

Handle in accordance with good laboratory safety practices. Avoid contact with skin and eyes. Avoid inhalation of dust.

Storage

Store in a tightly sealed container in a cool, dry and well-ventilated area. Protect from light and moisture.

Section 8: Exposure controls / personal protection

Engineering controls

Use adequate ventilation or work in a chemical fume hood.

Eye protection

Safety glasses or chemical safety goggles.

Hand protection

Protective gloves.

Skin protection

Laboratory coat or suitable protective clothing.

Respiratory protection

Use respiratory protection if dust exposure is possible.

Hygiene measures

Wash hands thoroughly after handling.

Section 9: Physical and chemical properties

Appearance: Crystalline powder

Color: Dark green to blue powder

Odor: Odorless

Melting point: Approximately 190 °C (decomposition)

Boiling point: Not applicable

Solubility: Soluble in water and ethanol

Section 10: Stability and reactivity

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Strong light, excessive heat.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Carbon oxides, nitrogen oxides, sulfur oxides and hydrogen chloride.

Section 11: Toxicological information

Harmful if swallowed.

Causes serious eye irritation.

Exposure may cause irritation to eyes, skin and respiratory tract.

Section 12: Ecological information

No detailed ecological data available.

Avoid release to the environment.

Section 13: Disposal considerations

Dispose of contents and container in accordance with local, regional and national regulations. Handle as laboratory chemical waste.

Section 14: Transport information

Not classified as dangerous goods for transport under ADR / IMDG / IATA regulations.

Section 15: Regulatory information

This substance is supplied for laboratory research purposes only.

Section 16: Other information

The information provided in this Safety Data Sheet is based on available chemical data and is intended for laboratory use and handling guidance.