MATERIAL SAFETY DATA SHEET
METHYLENE BLUE

Infosafe No.: AJ18X
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IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Methylene Blue
Product Code: 86164
Company Name: Aquasonic Pty Ltd
Address: 14 Commerce St WAUCHOPE
          NSW 2446
Emergency Telephone: 02 6586 4933
Fax: 02 6586 4944
Product Use: Medicinal only
Other Name: Staining agent for microscopy

HAZARDS IDENTIFICATION

Hazard Classification: Australia: Classified as hazardous according to criteria of National
                      Occupational Health and Safety Commission, Australia (NOHSC). Not
                      classified as Dangerous Goods according to the Australian Code for the
                      Transport of Dangerous Goods by Road and Rail.

                      New Zealand: Classified as Hazardous according to the Hazardous
                      Not classified as Dangerous Goods for transport according to the New

                      HSNO Classification:
                      6.4A – Substance that is irritating to the eye.
                      9.1C – Substance that is harmful to the aquatic environment.
                      Hazard Statement Codes:
                      H320 Causes eye irritation
                      H412 Harmful to aquatic life with long lasting effects
                      Precautionary Statement Codes – Prevention:
                      P103* Read label before use. – This statement applies only where the
                      substance is available to the general public.
                      P104 Read Safety Data Sheet before use
                      P264 Wash skin thoroughly after handling
                      P273 Avoid release to the environment

                      Precautionary Statement Codes – Response:
                      EYE:
                      P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several
                      minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention
Precautionary Statement Codes – Storage:
None
Precautionary Statement Codes – Disposal:
P501 In the case of a substance that is in compliance with a HSNO approval other than a part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

Risk Phrase(s): R22 Harmful if swallowed.
Safety Phrase(s): S22 Do not breathe dust.

**COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
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<tbody>
<tr>
<td>Methylene Blue</td>
<td>61-73-4</td>
<td></td>
<td>100%</td>
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**FIRST AID MEASURES**

Inhalation: Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have a qualified person give oxygen through a facemask if breathing is difficult. Seek medical attention.

Ingestion: Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin: If skin or hair contact occurs remove contaminated clothing and wash contaminated skin and hair with running water and follow by washing with mild soap and water. If irritation develops seek medical attention.

Eye: If contact with eyes occurs, wash with copious amounts of water holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek medical attention.

First Aid Facilities: Eye wash and normal washroom facilities.
Advice to doctor: Treat symptomatically
Other information: For advice, contact a Poisons Information Centre (Phone Australia: 131 126 New Zealand: 0800 764 766) or a doctor (at once).

**FIRE FIGHTING MEASURES**

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide, foam and water spray.

Hazards from Combustion products: Under fire conditions this product may emit toxic and/or irritating smoke, fumes and gasses including carbon monoxide, carbon dioxide, nitrogen oxides, oxides of sulphur and hydrogen sulphide.

Specific Hazards: Combustible solid. This product will burn if exposed to fire. This product in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Precautions in Connection with fire: Fire fighters should wear self-contained breathing apparatus (SCBA) and full protective clothing to prevent exposure to vapours, fumes or products of
combustion. Water spray may be used to cool down heat exposed containers.

**ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Remove sources of ignition. Wear appropriate personal protective equipment and clothing to prevent exposure. Evacuate all unprotected personnel. Sweep up material avoiding dust generation or where possible use dustless methods such as vacuum to collect the material and transfer into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to applicable local and national regulations. If contamination of sewers or waterways occurs, inform the local water authorities and EPA in accordance with local regulations.

**HANDLING AND STORAGE**

**Precautions for Safe Handling:**

Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of dust in the work atmosphere. Avoid inhalation of dust, and skin or eye contact. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities.

**Conditions for Safe Storage:**

Store in a well ventilated area away from heat and sources of ignition, out of direct sunlight and moisture. Take precautions against static electricity discharges. Use proper grounding procedures. Store away from incompatible materials such as materials that support combustion (oxidising materials). Store in suitable, labelled containers. Inspect periodically for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area.

**EXPOSURE CONTROLS/PERSONAL PROTECTION**

**National Exposure Standards:**

No exposure standards have been established for the mixture by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However over exposure to some industrial chemicals may result in enhancement of pre-existing adverse medical conditions and/or allergic reactions and should be kept to the least possible levels. The exposure limits for dust not otherwise specified are as follows:

Australian National Occupational Health & Safety Commission (NOHSC) exposure standards:

- Dust TWA 10mg/m³ (inspirable fraction)
- New Zealand Workplace Exposure Standards (OSH):
  - Dust TWA 10mg/m³ (inspirable fraction)
  - TWA 3mg/m³ (respirable fraction)

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight hour working day, for a five day week.

**Engineering Controls:**

Use with good general ventilation. If dust is produced local exhaust ventilation should be used.

**Respiratory Protection:**

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable dust/particulate filter should be used. Reference should be made to Australian/New Zealand Standards
AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

**Eye Protection:** Safety glasses with side shields or chemical goggles should be worn. Final choice of eye/face protection will vary according to individual circumstances. Eye protection devices should conform to Australian/New Zealand Standard AS/NZS 1337 – Eye Protection for Industrial Applications

**Hand Protection:** Wear gloves of impervious material such as laminated film or nitrile. Final choice of appropriate gloves will vary according to individual circumstances i.e. Methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves – Selection, use and maintenance.

**Body Protection:** Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended.

### PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** A dark greenish, hygroscopic crystalline powder with a metallic lustre

**Odour:** Almost odourless

**Melting Point:** 190°C

**Boiling Point:** Not Applicable

**Solubility in Water:** Soluble (1g/25mL)

**Specific Gravity:** 1.23

**pH Value:** 3-5 (1% Aqueous Solution)

**Vapour Pressure:** Not Applicable

**Vapour Density (Air = 1):** Not Applicable

**Flash Point:** Not Available

**Flammability:** Not Flammable

**Auto-Ignition Temp:** Not Available

**Flammable Limits – Lower:** Not Available

**Flammable Limits – Upper:** Not Available

### STABILITY AND REACTIVITY

**Chemical Stability:** Stable under normal conditions of use and storage

**Conditions to Avoid:** Extremes of temperature and direct sunlight. Dust generation

**Incompatible Materials:** Strong oxidising agents, acids and alkalis.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, nitrogen oxides, oxides of sulphur and hydrogen sulphide.

**Hazardous Polymerisation:** Will not occur

### TOXICOLOGICAL INFORMATION

**Toxicology Information:** Acute toxicity: LD50 ORAL (rat): 1180mg/kg
Inhalation: Inhalation of dusts may irritate the respiratory system.
Ingestion: Harmful if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea. Ingestion may cause methemoglobinemia (deficient oxygenation of the blood). Other symptoms of methemoglobinemia such as cyanosis (blueish discolouration of the skin), lethargy, dizziness, fatigue, CNS depression and shock may be observed.
Skin: Skin contact may cause mechanical irritation resulting in redness and itching.
Eye: May cause mechanical irritation. May result in mild abrasion.
Chronic Effects: Prolonged or repeated exposures through skin contact, inhalation or swallowing of this material will result in harmful effects including central nervous system effects.
Reproductive Toxicity: Experimental animal studies showed that first trimester exposure may cause adverse reproductive effects.

ECOLOGICAL INFORMATION

Ecotoxicity: No data is available for this material.
Persistence/Degradability: Not Available
Mobility: Not available
Environment Protection: Do not allow product to enter drains, waterways or sewers.

DISPOSAL CONSIDERATIONS

Disposal Considerations: Dispose of waste according to federal, EPA and state regulations.

TRANSPORT INFORMATION

Transport Information: Australia: Not classified as dangerous goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. New Zealand: Not classified as Dangerous Goods according to New Zealand Standard 5433:2007 – Transport of Dangerous Goods on Land

REGULATORY INFORMATION

Regulatory Information: Australia: Classified as hazardous according to criteria of Australian National Occupational Health & Safety Commission (NOHSC). Classified as a Scheduled Poison according to the standard for the Uniform Scheduling of Drugs and Poisons (SUSDP)
Poisons Schedule: S4
Regulatory Information: Methylene Blue
Approval Number: HSR003661
Hazard Category: Harmful