



## Material Safety Data Sheet

### Methylene Blue, Anhydrous

#### SECTION 1.1 – PRODUCT IDENTIFICATION

Product Name	:	Methylene Blue, Anhydrous
Molecular Formula	:	C <sub>16</sub> -H <sub>18</sub> -N <sub>3</sub> -S-Cl
Molecular Weight	:	319.85 g/mole
CAS No.	:	61-73-4

#### SECTION: 1.2 – COMPANY IDENTIFICATION

**Company Name:** Indenta Chemicals (India) Pvt. Ltd.

**Address:** 117, The Summit Business Bay, Opp Cinemax, Off. Sir M.V. Road, Near WEH Metro Station, Andheri (E), Mumbai 400 093, India

**Telephone #:** +91-22-26849600

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#### SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	% by Weight
Methylene Blue, Anhydrous	61-73-4	100

**Toxicological Data on Ingredients:** Methylene Blue, Anhydrous: ORAL (LD50): Acute: 1180 mg/kg [Rat]. 3500 mg/kg [Mouse].

#### SECTION 3: HAZARD IDENTIFICATION

**Potential Acute Health Effects:** Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects:** CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

#### SECTION 4: FIRST AID MEASURES

**Eye Contact:** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

**Skin Contact:** Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

**Serious Skin Contact:** Not available.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Serious Inhalation:** Not available.

**Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

## SECTION 5: FIRE AND EXPLOSION DATA

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**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 452°C (845.6°F)

**Flash Points:** Not available.

**Flammable Limits:** Not available.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

**Explosion Hazards in Presence of Various Substances:** Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

**Special Remarks on Fire Hazards:** Flammable/combustible material. May be ignited by friction, heat, sparks, or flames. May reignite after fire is extinguished. Freshly prepared material may heat spontaneously in air, and presence of water accelerates this.

**Special Remarks on Explosion Hazards:** Material in powder form, capable of creating a dust explosion (forming explosive mixtures in air) when exposed to heat, flame, or ammonium nitrate + heat. ammonium tetrachloride at 240 C, bromates, Ca(OCl)<sub>2</sub>, chlorates, Cl<sub>2</sub>, (Cl<sub>2</sub> + Cr(OCl)<sub>2</sub>), ClO, F<sub>2</sub>, iodates, IO<sub>5</sub>, (Pb(NO<sub>3</sub>)<sub>2</sub>, HgNO<sub>3</sub>, HNO<sub>3</sub>, (oils + air), (potassium + air), Na<sub>2</sub>S, Zn(NO<sub>3</sub>)<sub>2</sub>.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Small Spill:** Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:** Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

## SECTION 7: HANDLING AND STORAGE

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**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

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**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne

levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:** Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Physical state and appearance:** Solid. (Crystals solid. Powdered solid.)

**Odor:** Slight.

**Taste:** Not available.

**Molecular Weight:** 319.85 g/mole

**Color:** Green. (Dark.)

**pH (1% soln/water):** Not available.

**Boiling Point:** Not available.

**Melting Point:** 105°C (221°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Not available.

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Soluble in cold water. Soluble in chloroform, glacial acetic acid, ethanol, and glycerol. Insoluble in xylene, oleic acid. Slightly soluble in pyrimidine.

## SECTION 10: STABILITY AND REACTIVITY

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**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Excess heat, light, air, incompatible materials

**Incompatibility with various substances:** Reactive with oxidizing agents, reducing agents, alkalis.

**Corrosivity:** Not available.

**Special Remarks on Reactivity:** Light Sensitive. Air Sensitive. Also incompatible with caustic alkali, dichromates, alkali iodides.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

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**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 1180 mg/kg [Rat].

**Chronic Effects on Humans:** MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

**Other Toxic Effects on Humans:** Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May cause adverse reproductive effects (female fertility - post implantation mortality; male fertility - inhibition of sperm motility) based on animal data. No human data found. May affect genetic material (mutagenic). Methylene Blue is used as color marker on skin, in tissue or amniotic fluid. It may be teratogenic via intraamniotic injection.

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: May cause skin irritation. It may color the skin a bluish color. Eyes: Dust causes eye irritation. It may cause corneal and conjunctival injury. Inhalation: Dust may cause respiratory tract irritation. No expected health hazard via inhalation during normal industrial handling. Ingestion: May be harmful if swallowed. Ingestion of large doses may cause gastrointestinal tract irritation, burning sensation mouth, nausea, vomiting, diarrhea, abdominal pain. May affect blood (hemolytic anemia, hyperbilirubinemia, methemoglobinemia), metabolism (weight loss). Other symptoms of overdose may include anxiety, chest pain, confusion, dizziness, headache, unusual tiredness and weakness, severe sweating, tremors. Symptoms of Methemoglobinemia include cyanosis, headache, lethargy, dizziness, fatigue, syncope, dyspnea, central nervous system depression, seizures, arrhythmia, and shock

## SECTION 12: ECOLOGICAL INFORMATION

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**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

## SECTION 13: DISPOSAL CONSIDERATION

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**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## SECTION 14: TRANSPORT INFORMATION

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**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

## SECTION 15: OTHER REGULATORY INFORMATION

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**Federal and State Regulations:** TSCA 8(b) inventory: Methylene Blue

**Other Regulations:** EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):**

Not controlled under WHMIS (Canada). Listed on Canadian DSL

**DSCL (EEC):** R22- Harmful if swallowed. R36- Irritating to eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:** Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

## **SECTION 16: ADDITIONAL INFORMATION**

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