



## Material Safety Data Sheet (MSDS)

### 3,3-Dichlorobenzidine

**Revision Date:** 20-01-2026

**Version:** 1.0

### Section 1: Product Identification

- **Product Name:** 3,3-Dichlorobenzidine
- **Chemical Formula:** C<sub>12</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>
- **CAS No:** 91-94-1
- **Recommended Use:** Intermediate for benzidine-based dyes; pigment manufacturing; restricted due to carcinogenic potential.

### Section 2: Hazards Identification

- **Classification (GHS):** Flammable liquids; Acute toxicity, Oral; Skin irritation; Eye irritation.
- **Signal Word:** Warning
- **Hazard Statements:**
  - Harmful if swallowed
  - Causes skin irritation and serious eye irritation
  - Combustible liquid
  - Keep away from heat/sparks/open flames. No smoking
  - Wear protective gloves/eye protection
- **IF ON SKIN or IN EYES:** Rinse cautiously with water; seek medical advice if irritation persists

## Section 3: Composition / Information on Ingredients

- **Concentration:** 98–99%
- 

## Section 4: First Aid Measures

- **Inhalation:** Remove to fresh air. If symptoms develop, seek medical attention.
  - **Skin Contact:** Wash with plenty of soap and water. Remove contaminated clothing. Seek medical advice if irritation persists.
  - **Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing. Seek medical attention if irritation persists.
  - **Ingestion:** Rinse mouth. Do NOT induce vomiting. Seek medical advice if feeling unwell.
- 

## Section 5: Fire-Fighting Measures

- **Suitable Extinguishing Media:** Dry chemical, foam, carbon dioxide water spray.
  - **Specific Hazards:** Combustible liquid; emits toxic fumes of carbon oxides under fire conditions.
  - **Protective Equipment:** Firefighters should wear self-contained breathing apparatus and protective clothing.
- 

## Section 6: Accidental Release Measures

- **Personal Precautions:** Use personal protective equipment. Avoid breathing vapors. Ensure adequate ventilation. Eliminate ignition sources.
  - **Environmental Precautions:** Prevent entry into drains and waterways.
  - **Cleanup Methods:** Absorb with inert material. Collect in suitable container for disposal.
- 



## Section 7: Handling and Storage

- **Handling:** Avoid inhalation of vapors and contact with skin/eyes. Use with adequate ventilation. Keep away from ignition sources.
  - **Storage:** Keep container tightly closed. Store in a cool, dry, well-ventilated place away from heat and oxidizing agents.
- 

## Section 8: Exposure Controls / Personal Protection

- **Exposure Limits:** ACGIH TLV 50 ppm 205 mg/m<sup>3</sup> TWA; OSHA PEL not established.
  - **Engineering Controls:** Provide adequate ventilation and local exhaust if needed.
  - **Personal Protective Equipment:** Chemical-resistant gloves, safety goggles, protective clothing. Respirator if ventilation is inadequate.
- 

## Section 9: Physical and Chemical Properties

- **Appearance:** Yellow-brown crystalline solid
  - **Boiling Point:** 311 °C
  - **Flash Point:** 125 °C
  - **Solubility:** Slightly soluble in water; soluble in organic solvents (acetone, ethanol, dichloromethane, toluene).
  - **Molecular Weight:** 253.13 g/mol
- 

## Section 10: Stability and Reactivity

- **Stability:** Stable under normal conditions.
  - **Incompatible Materials:** Strong oxidizing agents.
  - **Hazardous Decomposition Products:** Carbon oxides under fire conditions.
- 



## Section 11: Toxicological Information

- **Routes of Exposure:** Inhalation, ingestion, skin and eye contact.
  - **Acute Effects:** Harmful if swallowed; causes skin and eye irritation; may cause respiratory irritation.
  - **Chronic Effects:** Prolonged or repeated exposure may cause dermatitis and liver/kidney effects.
- 

## Section 12: Ecological Information

- **Ecotoxicity:** May be harmful to aquatic life in high concentrations.
  - **Persistence and Degradability:** Expected to be biodegradable.
  - **Bioaccumulative Potential:** Low to moderate potential.
- 

## Section 13: Disposal Considerations

- Dispose of contents/container in accordance with local/regional/national regulations. Do not release into the environment.
- 

## Section 14: Transport Information

- **UN Number:** UN2810
  - **Hazard Class:** 6.1
  - **Packing Group:** II
  - **Proper Shipping Name:** 3,3-Dichlorobenzidine
- 

## Section 15: Regulatory Information

- Complies with Indian chemical safety regulations and listed under international chemical inventories.
- Classified as hazardous substance as per GHS.



---

## Section 16: Other Information

- **Disclaimer:** The above information is believed to be correct but does not claim to be exhaustive. Users are responsible for verifying suitability under actual conditions of use. **Triveni chemicals** disclaim any liability for damage resulting from handling or contact.

