

# MSDS – Rhodamine B Dye

## MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

### 1. Identification of the Substance and Company

Product Name: Rhodamine B

Synonyms: Basic Violet 10, C.I. 45170

CAS Number: 81-88-9

Molecular Formula:  $C_{28}H_{31}ClN_2O_3$

Molecular Weight: ~479.02 g/mol

Recommended Use: Laboratory reagent, dye, tracer

Restrictions on Use: Not for food, drug, or cosmetic use

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### 2. Hazard Identification

GHS Classification:

Acute toxicity (oral) – Category 4

Skin irritation – Category 2

Eye irritation – Category 2A

Suspected carcinogen (Category 2 – based on limited evidence)

GHS Label Elements:

Signal Word: Warning

Hazard Statements:

Harmful if swallowed

Causes skin and eye irritation

Suspected of causing cancer

Precautionary Statements:

Avoid breathing dust

Wear protective gloves, clothing, eye protection

Wash hands thoroughly after handling

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### 3. Composition / Information on Ingredients

Component	Concentration
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Rhodamine B	≥ 95%
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### 4. First-Aid Measures

Inhalation:

Move person to fresh air. Seek medical attention if symptoms persist.

Skin Contact:

Wash immediately with soap and plenty of water. Remove contaminated clothing.

Eye Contact:

Rinse cautiously with water for at least 15 minutes. Seek medical attention.

Ingestion:

Do not induce vomiting. Rinse mouth and seek medical advice immediately.

Most Important Symptoms:

Irritation of eyes, skin, respiratory tract; gastrointestinal discomfort.

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### 5. Fire-Fighting Measures

Suitable Extinguishing Media:

Water spray, dry chemical, foam, CO<sub>2</sub>

Hazards from Combustion:

Carbon oxides, nitrogen oxides, hydrogen chloride

**Protective Equipment:**  
**Self-contained breathing apparatus and full protective gear**

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#### **6. Accidental Release Measures**

**Personal Precautions:**

**Avoid dust formation. Wear protective equipment.**

**Environmental Precautions:**

**Prevent release into drains, soil, or waterways.**

**Clean up Methods:**

**Sweep up carefully and collect in suitable container for disposal.**

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#### **7. Handling and Storage**

**Handling:**

**Avoid contact with skin, eyes, and clothing. Use in well-ventilated areas.**

**Storage:**

**Store in tightly closed container in a cool, dry, well-ventilated area.**

**Protect from light.**

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#### **8. Exposure Controls / Personal Protection**

**Engineering Controls:**

**Local exhaust ventilation recommended.**

**Personal Protective Equipment (PPE):**

**Gloves (nitrile or equivalent)**

**Safety goggles**

**Lab coat or protective clothing**

**Dust mask or respirator if airborne dust present**

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#### **9. Physical and Chemical Properties**

**Appearance: Dark green or reddish-purple crystalline powder**

**Odour: Odourless**

**Solubility: Soluble in water and alcohol**

**pH: Slightly acidic (aqueous solution)**

**Melting Point: ~200 °C (decomposes)**

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#### **10. Stability and Reactivity**

**Stability: Stable under normal conditions**

**Incompatible Materials: Strong oxidizing agents**

**Hazardous Decomposition Products: CO, CO<sub>2</sub>, NO<sub>x</sub>, HCl**

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#### **11. Toxicological Information**

**Acute Toxicity: Harmful if swallowed**

**Skin/Eye Effects: Irritating**

**Chronic Effects: Long-term exposure may pose carcinogenic risk**

**Mutagenicity: Limited evidence from animal studies**

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#### **12. Ecological Information**

**Eco toxicity: Toxic to aquatic organisms**

**Persistence: May persist in water**

**Bioaccumulation: Potential**

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#### **13. Disposal Considerations**

Dispose of contents and container according to local, regional, and national regulations.  
Do not dispose into sewer systems.

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#### **14. Transport Information**

**UN Number: Not regulated (small laboratory quantities)**

**Hazard Class: Not assigned**

**Packing Group: Not assigned**

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#### **15. Regulatory Information**

**Not approved for food or pharmaceutical use**

**Subject to chemical safety and hazardous substance regulations**

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#### **16. Other Information**

**Revision Date: 4<sup>th</sup> April 2026**

**Disclaimer:**

**This MSDS is provided for informational purposes only and is based on available data. The user is responsible for compliance with all applicable laws and regulations.**