# Material Safety Data Sheet

**Order Number**

**Customer Number**

## Section 1. Chemical Product and Company Identification

| | | | |
|---|---|---|---|
| **Common Name** | **Flunarizine, Dihydrochloride** | **Catalog #** | 343150 |
| **Supplier** | Calbiochem-Novabiochem Corp.<br>10394 Pacific Center Court<br>San Diego, CA 92121<br>(858)450-5558/(800)854-3417<br>FAX: (858)453-3552 | **In Case of Emergency** | **Call Chemtrec®**<br>**(800)424-9300 (within U.S.A.)**<br>**(703)527-3887 (outside U.S.A.)** |
| **Synonym** | Not available. | | |

## Section 2. Composition, Information on Ingredients

| Name | CAS # | Exposure Limits |
|---|---|---|
| 1) Flunarizine, Dihydrochloride | 30484-77-6 | Not available. |

## Section 3. Hazards Identification

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|---|---|
| **Physical State and Appearance** | Solid. (Solid powder.) |
| **Emergency Overview** | CAUTION!<br>MAY BE HARMFUL IF SWALLOWED.<br>Do not ingest. Wash thoroughly after handling. |
| **Routes of Entry** | Ingestion. |
| **Potential Acute Health Effects** | |
| ***Eyes*** | Not available. |
| ***Skin*** | Not available. |
| ***Inhalation*** | Not available. |
| ***Ingestion*** | Hazardous in case of ingestion. |
| **Potential Chronic Health Effects** | **CARCINOGENIC EFFECTS** : Not available.<br>**MUTAGENIC EFFECTS**: Not available.<br>**TERATOGENIC EFFECTS**: Not available. |
| **Medical Conditions Aggravated by Overexposure:** | Repeated or prolonged exposure is not known to aggravate medical condition. |
| **Overexposure /Signs/Symptoms** | Not available. |

**See Toxicological Information (section 11)**

## Section 4. First Aid Measures

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| **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. Get medical attention. |
| **Skin Contact** | In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention. |
| **Inhalation** | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. |
| **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. |
| **Notes to Physician** | Not available. |

## Section 5. Fire Fighting Measures

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|---|---|
| **Flammability of the Product** | May be combustible at high temperature. |
| **Flash Points** | Not available. |
| **Products of Combustion** | These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), halogenated compounds. |
| **Fire Hazards in Presence of Various Substances** | Not available. |
| **Explosion Hazards in Presence of Various Substances** | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available. |
| **Fire Fighting Media and Instructions** | SMALL FIRE: Use DRY chemical powder.<br>LARGE FIRE: Use water spray, fog or foam. Do not use water jet. |
| **Protective Clothing (Fire)** | Be sure to use an approved/certified respirator or equivalent. |
| **Special Remarks on Fire Hazards** | Not available. |
| **Special Remarks on Explosion Hazards** | Not available. |

## Section 6. Accidental Release Measures

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|---|---|
| **Small Spill and Leak** | 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 and Leak** | 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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|---|---|
| **Handling** | Do not ingest. Wash thoroughly after handling. |
| **Storage** | Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above -20°C (-4°F). |

## Section 8. Exposure Controls, Personal Protection

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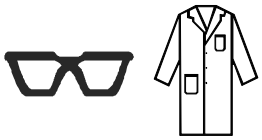
|---|---|
| **Engineering Controls** | Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. |
| **Personal Protection** | |
| ***Eyes*** | Safety glasses. |
| ***Body*** | Lab coat. |
| ***Respiratory*** | Wear appropriate respirator when ventilation is inadequate. |
| ***Hands*** | Not applicable. |
| ***Feet*** | Not applicable. |
| **Protective Clothing (Pictograms)** |  |
| **Personal Protection in Case of a Large Spill** | Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. |

| Product Name | Exposure Limits |
|---|---|
| 1) Flunarizine, Dihydrochloride | Not available. |

**Consult local authorities for acceptable exposure limits.**

## Section 9. Physical and Chemical Properties

| | |
|---|---|
| **Physical State and Appearance** | Solid. (Solid powder.) |
| **Color** | White. |
| **Molecular Weight** | 477.4 g/mole |
| **Molecular Formula** | $C_{26}H_{26}F_2N_2 \cdot 2HCl$ |
| **Boiling/Condensation Point** | Not available. |
| **Melting/Freezing Point** | 215 to 220°C (419 to 428°F) |
| **Specific Gravity** | Not available. |
| **Vapor Pressure** | Not applicable. |
| **Vapor Density** | Not available. |
| **Solubility** | Not available. |

## Section 10. Stability and Reactivity

| | |
|---|---|
| **Stability and Reactivity** | The product is stable. |
| **Incompatibility with Various Substances** | Not available. |
| **Hazardous Decomposition Products** | These products are halogenated compounds. |
| **Hazardous Polymerization** | Not available. |

## Section 11. Toxicological Information

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|---|---|
| **RTECS #** | **TK9187000** |
| **Toxicity to Animals** | Acute oral toxicity (LD50): 285 mg/kg [Mouse]. |
| **Chronic Effects on Humans** | Not available. |
| **Other Toxic Effects on Humans** | Hazardous in case of ingestion. |
| **Special Remarks on Toxicity to Animals** | Not available. |
| **Special Remarks on Chronic Effects on Humans** | Not available. |
| **Special Remarks on Other Toxic Effects on Humans** | Not available. |

## Section 12. Ecological Information

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|---|---|
| **Ecotoxicity** | Not available. |
| **Toxicity of the Products of Biodegradation** | The products of degradation are as toxic as the product itself. |

## Section 13. Disposal Considerations

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|---|---|
| **Waste Information** | Waste must be disposed of in accordance with federal, state and local environmental control regulations. |
| **Waste Stream** | Not available. |

**Consult your local or regional authorities.**

## Section 14. Transport Information

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|---|---|
| **DOT Classification** | Not a DOT controlled material (United States). |
| | Not regulated. |
| **TDG Classification** | Not controlled under TDG (Canada). |
| | Not regulated. |
| **Marine Pollutant** | Not available. |
| **Special Provisions for Transport** | Not applicable. |
| **ADR/RID Classification** | Not controlled under ADR (Europe). |
| **IMO/IMDG Classification** | Not controlled under IMDG. |
| **ICAO/IATA Classification** | Not controlled under IATA. |

## Section 15. Regulatory Information

| | |
|---|---|
| **HCS Classification** | CLASS: Toxic. |
| **U.S. Federal Regulations** | TSCA: No products were found.<br>SARA 302/304/311/312 extremely hazardous substances: No products were found.<br>SARA 302/304 emergency planning and notification: No products were found.<br>SARA 302/304/311/312 hazardous chemicals: No products were found.<br>SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.<br>SARA 313 toxic chemical notification and release reporting: No products were found.<br>Clean Water Act (CWA) 307: No products were found.<br>Clean Water Act (CWA) 311: No products were found.<br>Clean air act (CAA) 112 accidental release prevention: No products were found.<br>Clean air act (CAA) 112 regulated flammable substances: No products were found.<br>Clean air act (CAA) 112 regulated toxic substances: No products were found. |
| **WHMIS (Canada)** | CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).<br>No products were found. |
| **International Regulations** | |
| **EINECS** | Not available. |
| **DSCL (EEC)** | R22- Harmful if swallowed. |
| **International Lists** | Australia (NICNAS): Flunarizine, Dihydrochloride |
| **State Regulations** | No products were found.<br>California prop. 65: No products were found. |

## Section 16. Other Information

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|---|---|
| **Label Requirements** | MAY BE HARMFUL IF SWALLOWED. |

**Hazardous Material Information System (U.S.A.)**

| | |
|---|---|
| Health | 2 |
| Fire Hazard | 1 |
| Reactivity | 0 |
| Personal Protection | a |

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

**Notice to Reader**

***To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.***
***Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.***

**Catalog #** 343150

**Date of issue**
**1/30/2002.**