

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
   	<p><b>Environmental hazard.</b>                      This material is toxic to aquatic organisms and may cause long term adverse effects to the aquatic environment.                      Toxic compound, do not ingest or inhale. Avoid all contact with this material.                      Irritating to skin, eyes, and the respiratory system.  <b>CARCINOGEN. MINIMIZE EXPOSURE.</b>                      Light sensitive material.</p>	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Crystal Violet</b> [Ion association reagent for spectrophotometric analysis.]		
Catalog Number	A5104	Supplier	TCI America 9211 N. Harborsgate St. Portland OR 1-800-423-8616
Synonym	Basic Violet 3		
Chemical Formula	C <sub>25</sub> H <sub>30</sub> ClN <sub>3</sub> •9H <sub>2</sub> O		
CAS Number	548-62-9	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Crystal Violet <small>[Ion association reagent for spectrophotometric analysis.]</small>	548-62-9	-----	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.	Rat LD <sub>50</sub> (oral) 420mg/kg Mouse LD <sub>50</sub> (oral) 96mg/kg Rabbit LD <sub>50</sub> (intraperitoneal) 5mg/kg

## Section III. Hazards Identification

Acute Health Effects	<p>Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.                      Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.</p>
Chronic Health Effects	<p><b>CARCINOGENIC EFFECTS :</b>                      Rat-TDLo - ROUTE: Oral; DOSE: 10950 mg/kg/2Y continuous  <b>TOXIC EFFECTS:</b>                      Tumorigenic - Carcinogenic by RTECS criteria                      Endocrine - Thyroid tumors                      Mouse-TDLo - ROUTE: Oral; DOSE: 25750 mg/kg/2Ycontinuous  <b>TOXIC EFFECTS:</b>                      Tumorigenic - Carcinogenic by RTECS criteria                      Kidney, Ureter, and Bladder - Tumors                      Tumorigenic Effects - Ovarian tumors  <b>MUTAGENIC EFFECTS :</b> Not available.  <b>TERATOGENIC EFFECTS :</b>  <b>DEVELOPMENTAL TOXICITY:</b>                      Rat-TDLo - ROUTE: Oral; DOSE: 100 mg/kg; DURATION: female 6-15D of pregnancy  <b>TOXIC EFFECTS:</b>                      Specific Developmental Abnormalities -Musculoskeletal system                      Specific Developmental Abnormalities -Urogenital system                      Rat-TDLo - ROUTE: Oral; DOSE: 100 mg/kg; DURATION: female 6-15D of pregnancy  <b>TOXIC EFFECTS:</b>                      Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus)                      Effects on Embryo or Fetus - Fetal death                      Specific Developmental Abnormalities -                      Musculoskeletal system                      Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

## Section IV. 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. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.

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Emergency phone number (800) 424-9300

[Ion association reagent for spectrophotometric analysis.]

Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.
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### Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ), halogenated compounds. WARNING: Highly toxic HCl gas is produced during combustion.		
Fire Hazards	Not available.		
Explosion Hazards	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	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. Consult with local fire authorities before attempting large scale fire-fighting operations.		

### Section VI. Accidental Release Measures

Spill Cleanup Instructions	Environmentally hazardous material. Toxic material. Irritating material. Carcinogenic material. Light-sensitive material. Stop leak if without risk. DO NOT get water inside container. DO NOT touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.
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### Section VII. Handling and Storage

Handling and Storage Information	ENVIRONMENTAL HAZARD. TOXIC. IRRITANT. CARCINOGEN. LIGHT-SENSITIVE. Keep locked up. Keep away from heat. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents.
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### Section VIII. Exposure Controls/Personal Protection

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. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
	
Exposure Limits	This chemical is classified as a carcinogen. There is no acceptable exposure limit for a carcinogen.

### Section IX. Physical and Chemical Properties

Physical state @ 20°C	Green crystal.	Solubility	Not available.
Specific Gravity	Not available.		
Molecular Weight	407.98 (Anh)	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not available.
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

### Section X. Stability and Reactivity Data

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong reducing agents.

[Ion association reagent for spectrophotometric analysis.]

**Section XI. Toxicological Information**

RTECS Number	BO9000000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	Rat LD <sub>50</sub> (oral) 420mg/kg Mouse LD <sub>50</sub> (oral) 96mg/kg Rabbit LD <sub>50</sub> (intraperitoneal) 5mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Rat-TDLo - ROUTE: Oral; DOSE: 10950 mg/kg/2Y continuous TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Endocrine - Thyroid tumors Mouse-TDLo - ROUTE: Oral; DOSE: 25750 mg/kg/2Y continuous TOXIC EFFECTS: Tumorigenic - Carcinogenic by RTECS criteria Kidney, Ureter, and Bladder - Tumors Tumorigenic Effects - Ovarian tumors <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : <b>DEVELOPMENTAL TOXICITY</b> : Rat-TDLo - ROUTE: Oral; DOSE: 100 mg/kg; DURATION: female 6-15D of pregnancy TOXIC EFFECTS: Specific Developmental Abnormalities -Musculoskeletal system Specific Developmental Abnormalities -Urogenital system Rat-TDLo - ROUTE: Oral; DOSE: 100 mg/kg; DURATION: female 6-15D of pregnancy TOXIC EFFECTS: Effects on Embryo or Fetus - Fetotoxicity (except death, e.g., stunted fetus) Effects on Embryo or Fetus - Fetal death Specific Developmental Abnormalities - Musculoskeletal system Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Hexamethyl-p-rosaniline chloride's production and uses as a dye and topical antibacterial medication, both human and veterinary, may result in its release to the environment through various waste streams. If released to air, an estimated vapor pressure of 1.9X10 <sup>-14</sup> mm Hg at 25 deg C indicates hexamethyl-p-rosaniline chloride will exist solely in the particulate phase in the ambient atmosphere. Particulate-phase hexamethyl-p-rosaniline chloride may be removed from the atmosphere by wet and dry deposition. Hexamethyl-p-rosaniline chloride has a UV max of 590 nm indicating a potential for direct photolysis in the environment. If released to soil, hexamethyl-p-rosaniline chloride is expected to have no mobility based upon an estimated Koc of 4X10 <sup>+6</sup> . Hexamethyl-p-rosaniline chloride is a cationic salt and cations generally adsorb to organic carbon and clay more strongly than their neutral counterparts. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 3.1X10 <sup>-16</sup> atm-cu m/mole. If released into water, hexamethyl-p-rosaniline chloride is expected to adsorb to suspended solids and sediment based upon the estimated Koc. Measurable transformation rates of 0.002 to 0.012/hour, that correspond to a half-life range of 2.4 to 14.4 days, were observed in 42 batch culture die-away tests using natural water samples from four sites. The photoreaction of hexamethyl-p-rosaniline chloride in water is reported to give p-dimethylamino phenol, 4,4'-bis dimethylamino benzophenone, the leuco- and demethylated derivative of hexamethyl-p-rosaniline chloride. Volatilization from water surfaces is not expected to be an important fate process based upon this compound's estimated Henry's Law constant. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low. Occupational exposure to hexamethyl-p-rosaniline chloride may occur through inhalation of dust and dermal contact with this compound at workplaces where hexamethyl-p-rosaniline chloride is produced or used. General population exposure may occur via use of topical medications and consumer products containing this compound. (SRC) [Peer Reviewed]

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of the substance.
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**Section XIV. Transport Information**

DOT Classification	CLASS 9: Miscellaneous hazardous material.
PIN Number	UN: 3077
Proper Shipping Name	Environmentally hazardous substance, solid, n.o.s.
Packing Group (PG)	III
DOT Pictograms	

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Emergency phone number (800) 424-9300

[Ion association reagent for spectrophotometric analysis.]

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list.
WHMIS Classification (Canada)	On DSL.
EINECS Number (EEC)	208-953-6
EEC Risk Statements	R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R45- May cause cancer.
Japanese Regulatory Data	ENCS No. 4-873; 5-1969; 5-1971

**Section XVI. Other Information**

**Version 1.0**  
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**Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. 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 chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

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