

# Material Safety Data Sheet

Crystal Violet



## 1. Product and company identification

**Product name** : Crystal Violet  
**Product code** : 192  
**Supplier** : EMD Chemicals Inc.  
480 S. Democrat Rd.  
Gibbstown, NJ 08027  
856-423-6300 Technical Service  
Monday-Friday: 8:00 -5:00 PM  
**Synonym** : Basic Violet 3  
**Material uses** : Other non-specified industry: Analytical reagent.  
**Validation date** : 10/14/2009.  
**In case of emergency** : 800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (Canada)  
24 Hours/Day: 7 Days/Week

## 2. Hazards identification

**Emergency overview** : WARNING!  
HARMFUL IF INHALED.  
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
MAY BE HARMFUL IF SWALLOWED.  
CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.  
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:  
SKIN.  
WARNING: This product contains a chemical known to the State of California to cause cancer.  
Avoid exposure - obtain special instructions before use. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

**Physical state** : Solid. [Crystalline powder]  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Routes of entry** : Inhalation. Ingestion.  
**Potential acute health effects**  
**Inhalation** : Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Ingestion** : May be harmful if swallowed.  
**Skin** : Irritating to skin.  
**Eyes** : Irritating to eyes.  
**Potential chronic health effects**  
**Carcinogenicity** : Can cause cancer. Risk of cancer depends on duration and level of exposure.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.  
**Target organs** : Contains material which causes damage to the following organs: skin.  
**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.  
**See toxicological information (section 11)**

### 3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Crystal Violet	548-62-9	95 - 99
Zinc	7440-66-6	0 - 5
Michler's Ketone	90-94-8	0.2

Crystal Violet is recognized by CAS# 548-62-9

### 4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- 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. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### 5 . Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
halogenated compounds  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Special remarks on explosion hazards** : Dust can combine with air to form an explosive mixture. Thermal decomposition may release toxic and/or hazardous gases.

### 6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and storage

- Handling** : Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

## 8. Exposure controls/personal protection

### Consult local authorities for acceptable exposure limits.

- Engineering measures** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Vapor respirator or self-contained breathing apparatus (SCBA).
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: face shield
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.  
Recommended: safety apron and gloves
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

- Physical state** : Solid. [Crystalline powder]
- Color** : Dark Green
- Odor** : Odorless.
- pH** : Not available.
- Boiling/condensation point** : Decomposition temperature: 215°C (419°F)
- Melting/freezing point** : Not available.
- Relative density** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Solubility** : Soluble in the following materials: water

## 10 . Stability and reactivity

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Avoid exposure - obtain special instructions before use.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, acids, alkalis and moisture.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Conditions of reactivity** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts and oxidizing materials.  
Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts.  
Explosive in the presence of the following materials or conditions: heat.  
Dust can combine with air to form an explosive mixture Thermal decomposition may release toxic and/or hazardous gases.

## 11 . Toxicological information

### Acute toxicity

Product/ingredient name	Test Route	Species	Result
Crystal Violet	LD50 Intraperitoneal	Rat	8900 ug/kg
	LD50 Oral	Mouse	96 mg/kg
	LD50 Oral	Rabbit	150 mg/kg
	LD50 Oral	Rat	420 mg/kg
	LDLo Oral	Cat	100 mg/kg
	LDLo Oral	Guinea pig	100 mg/kg
Zinc	LDLo Oral	Duck	388 mg/kg
Michler's Ketone	LD50 Oral	Bird - wild bird species	100 mg/kg

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Michler's Ketone	-	-	-	-	Possible	-

Can cause cancer. Risk of cancer depends on duration and level of exposure.

### Mutagenicity

No known significant effects or critical hazards.

### Teratogenicity

No known significant effects or critical hazards.

## 12 . Ecological information

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Zinc	Acute EC50 2.8 mg/L	Daphnia	48 hours
	Acute LC50 0.57 mg/L	Daphnia	96 hours
	Acute LC50 0.56 mg/L	Fish	96 hours
	Acute LC50 0.41 mg/L	Fish	96 hours
	Acute LC50 0.24 mg/L	Fish	96 hours
	Acute LC50 0.238 mg/L	Fish	96 hours


**Environmental effects** : No known significant effects or critical hazards.

**Other adverse effects** : No known significant effects or critical hazards.

## 13 . Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN2811	Toxic Solid, Organic, N.O.S. (Gentian Violet)	6.1	III		-

PG\* : Packing group

## 15 . Regulatory information

### United States

**HCS Classification** : Toxic material  
Irritating material  
Carcinogen  
Target organ effects

**U.S. Federal regulations** : **United States inventory (TSCA 8b):**

All components of this product are listed on or compliant with the TSCA Inventory.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.

**SARA 302/304 emergency planning and notification:** No products were found.

**SARA 302/304/311/312 hazardous chemicals:** Zinc ; Crystal Violet

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Zinc : Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; Crystal Violet: Immediate (acute) health hazard, Delayed (chronic) health hazard

**Clean Water Act (CWA) 307:** Zinc

**Clean Water Act (CWA) 311:** No products were found.

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances:** No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances:** No products were found.

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
<b>Form R - Reporting requirements</b>	Zinc	7440-66-6	0 - 5
	Michler's Ketone	90-94-8	0.2
<b>Supplier notification</b>	Zinc	7440-66-6	0 - 5
	Michler's Ketone	90-94-8	0.2

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**Connecticut Carcinogen Reporting** : None of the components are listed.

**Connecticut Hazardous Material Survey** : None of the components are listed.

**Florida substances** : None of the components are listed.

**Illinois Chemical Safety Act** : None of the components are listed.

## 15 . Regulatory information

- Illinois Toxic Substances Disclosure to Employee Act** : None of the components are listed.
- Louisiana Spill** : None of the components are listed.
- Louisiana Reporting** : None of the components are listed.
- Massachusetts Spill** : None of the components are listed.
- Massachusetts Substances** : The following components are listed: Zinc
- Minnesota Hazardous Substances** : None of the components are listed.
- Michigan Critical Material** : None of the components are listed.
- New Jersey Toxic Catastrophe Prevention Act** : None of the components are listed.
- New Jersey Spill** : None of the components are listed.
- New Jersey Hazardous Substances** : The following components are listed: Crystal Violet
- New York Toxic Chemical Release Reporting** : None of the components are listed.
- New York Acutely Hazardous Substances** : None of the components are listed.
- Pennsylvania RTK Hazardous Substances** : The following components are listed: Zinc ; Michler's Ketone
- Rhode Island Hazardous Substances** : None of the components are listed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Michler's Ketone	Yes.	No.	Yes.	No.

### Canada

- WHMIS (Canada)** : Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
- Canadian lists** : **CEPA Toxic substances:** None of the components are listed.  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** None of the components are listed.  
**Alberta Designated Substances:** None of the components are listed.  
**Ontario Designated Substances:** None of the components are listed.  
**Quebec Designated Substances:** None of the components are listed.

**CEPA DSL / CEPA NDSL** : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### EU regulations

**Hazard symbol or symbols** :



- Risk phrases** : R45- May cause cancer.  
R22- Also harmful if swallowed.  
R41- Risk of serious damage to eyes.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## 15 . Regulatory information

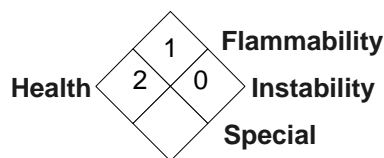
**Safety phrases** : S53- Avoid exposure - obtain special instructions before use.  
S2- Keep out of the reach of children.  
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S29- Do not empty into drains.  
S39- Wear eye/face protection.  
S46- If swallowed, seek medical advice immediately and show this container or label.  
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

### International regulations

**International lists** : **Australia inventory (AICS)**: All components are listed or exempted.  
**China inventory (IECSC)**: All components are listed or exempted.  
**Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.  
**Korea inventory (KECI)**: All components are listed or exempted.  
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.  
**Philippines inventory (PICCS)**: All components are listed or exempted.

## 16 . Other information

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



**Other special considerations** : Crystal Violet is recognized by CAS# 548-62-9

### Notice to reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.