

Material Safety Data Sheet

Crystal Violet



1. Product and company identification

Product name : Crystal Violet
Product code : 65092A
Supplier : EMD Chemicals Inc.
480 S. Democrat Rd.
Gibbstown, NJ 08027
856-423-6300 Technical Service
Monday-Friday: 8:00 -5:00 PM
Synonym : None.
Material uses : Other non-specified industry: Laboratory Reagent
Validation date : 12/16/2009.
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!
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF ABSORBED THROUGH SKIN.
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY BE HARMFUL IF INHALED OR SWALLOWED.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING
ORGANS: BLOOD, REPRODUCTIVE SYSTEM, LIVER, RESPIRATORY TRACT, SKIN,
EYES, CENTRAL NERVOUS SYSTEM.
Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest.
Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep
container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Physical state : Liquid.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard
(29 CFR 1910.1200).

Routes of entry : Dermal contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system.

Ingestion : May be harmful if swallowed.

Skin : Toxic in contact with skin. Irritating to skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Carcinogenicity : No known significant effects or critical hazards.

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 may cause damage to the following organs: blood, the
reproductive system, liver, upper respiratory tract, skin, eyes, central nervous system
(CNS).

**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)

Continued on next page

3 . Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
Crystal Violet	548-62-9	0.1 - 1
Phenol	108-95-2	0.1 - 1
Ethyl Alcohol	64-17-5	9 - 11
Methanol	67-56-1	0.1 - 1
Water	7732-18-5	77 - 79

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	: Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	: Do not use water jet.
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
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.

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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. 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).
<u>Methods for cleaning up</u>	

6 . Accidental release measures

- Spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

7 . Handling and storage

- Handling** : Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container, protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Ethyl Alcohol	<p>ACGIH TLV (United States, 1/2008). TWA: 1000 ppm 8 hour(s). TWA: 1880 mg/m³ 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hour(s). TWA: 1900 mg/m³ 8 hour(s).</p> <p>NIOSH REL (United States, 6/2008). TWA: 1000 ppm 10 hour(s). TWA: 1900 mg/m³ 10 hour(s).</p> <p>OSHA PEL (United States, 11/2006). TWA: 1000 ppm 8 hour(s). TWA: 1900 mg/m³ 8 hour(s).</p>

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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- 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

8 . Exposure controls/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.
- 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.
- 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.
- 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** : Liquid.
- Color** : Violet or Red
- Odor** : Alcohol-like. [Slight]
- pH** : Not available.
- Boiling/condensation point** : Not available.
- 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 all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid** : Highly reactive or incompatible with the following materials: oxidizing materials and metals.
Reactive or incompatible with the following materials: acids.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Conditions of reactivity** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts.
Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test Route	Species	Result
Ethyl Alcohol	LD50 Intra-arterial	Rat	11 mg/kg
	LD50 Intraperitoneal	Rat	3600 ug/kg
	LD50 Intravenous	Rat	1440 mg/kg
	LD50 Oral	Rat	7060 mg/kg
	LD50 Oral	Rabbit	6300 mg/kg
	LD50 Oral	Mouse	3450 mg/kg
	LD50 Oral	Rat	7 g/kg
	LDLo Dermal	Rabbit	20 g/kg
	LDLo Oral	Dog	5500 mg/kg
	LDLo Oral	Human	1400 mg/kg
	TDLo Intraperitoneal	Rat	3000 mg/kg
	TDLo Intraperitoneal	Rat	2700 mg/kg
	TDLo Intraperitoneal	Rat	2000 mg/kg
	TDLo Intraperitoneal	Rat	1.25 mg/kg
	TDLo Intraperitoneal	Rat	1000 mg/kg
	TDLo Intraperitoneal	Rat	106 ug/kg
	TDLo Intracerebral	Rat	500 mg/kg
	TDLo Intraperitoneal	Rat	1.5 g/kg
	TDLo Intraperitoneal	Rat	0.5 g/kg
	TDLo Oral	Rat	5 mL/kg
	TDLo Oral	Rat	4 mL/kg
	TDLo Oral	Rat	0.5 g/kg
	TDLo Oral	Rat	8000 mg/kg
	TDLo Oral	Rat	1 g/kg
	TDLo Intraperitoneal	Rat	2.45 g/kg
	TDLo Oral	Rat	6000 mg/kg
	TDLo Oral	Rat	5250 mg/kg
	TDLo Oral	Rat	2.5 g/kg
	TDLo Oral	Rat	5000 mg/kg
	TDLo Oral	Rat	4800 mg/kg
	TDLo Oral	Rat	4300 mg/kg
	TDLo Oral	Rat	10 mL/kg
	TDLo Oral	Rat	0.5 g/kg
	TDLo Intraperitoneal	Rat	2 g/kg
	TDLo Oral	Rat	5 g/kg
	TDLo Oral	Rat	5.25 g/kg
	TDLo Oral	Rat	3 g/kg
	TDLo Oral	Rat	1600 mg/kg
	TDLo Oral	Rat	0.4 g/kg
	TDLo Oral	Rat	1500 mg/kg
	TDLo Oral	Rat	0.25 g/kg
	TDLo Oral	Rat	0.72 g/kg
TDLo Oral	Rat	6 g/kg	

11 . Toxicological information

TDL _o Oral	Rat	6.4 g/kg
TDL _o	Rat	2.4 mg/kg
Intraperitoneal TDL _o	Rat	3500 mg/kg
Intraperitoneal TDL _o	Rat	363.6 ug/kg
Intracerebral TDL _o Unreported	Rat	3 g/kg
LC ₅₀ Inhalation Vapor	Rat	20000 ppm
LC ₅₀ Inhalation Gas.	Rat	20000 ppm

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ethyl Alcohol	A4	-	-	-	-	-

No known significant effects or critical hazards.

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
Ethyl Alcohol	Acute EC ₅₀ >100 mg/L	Daphnia	48 hours
	Acute EC ₅₀ 9.3 mg/L	Daphnia	48 hours
	Acute EC ₅₀ 2 mg/L	Daphnia	48 hours
	Acute EC ₅₀ >100 ppm	Daphnia - Water flea -	48 hours
	Fresh water	Daphnia magna -	<24 hours
	Acute EC ₅₀ 2000 ug/L	Daphnia - Water flea -	48 hours
	Fresh water	Daphnia magna	
	Acute LC ₅₀ 13000 mg/L	Fish	96 hours
	Acute LC ₅₀ 5680 to 7392	Daphnia - Water flea -	48 hours
	mg/L Fresh water	Daphnia magna - Neonate -	<24 hours
	Acute LC ₅₀ 13 to 16 ml/L	Fish - Rainbow	96 hours
	Fresh water	trout,donaldson trout -	
		Oncorhynchus mykiss - 0.8	
		g	
	Acute LC ₅₀ >100 mg/L	Fish	96 hours
	Acute LC ₅₀ >100000 ug/L	Fish - Fathead minnow -	96 hours
	Fresh water	Pimephales promelas -	
		Juvenile (Fledgling,	
		Hatchling, Weanling) - 0.2 to	
		0.5 g	
	Acute LC ₅₀ 42000 ug/L	Fish - Rainbow	4 days
	Fresh water	trout,donaldson trout -	
		Oncorhynchus mykiss	
	Acute LC ₅₀ 25500 ug/L	Crustaceans - Brine shrimp -	48 hours
	Marine water	Artemia franchiscana -	
		LARVAE	
	Acute LC ₅₀ 13480000	Fish - Fathead minnow -	96 hours
	ug/L Fresh water	Pimephales promelas -	
		Juvenile (Fledgling,	
		Hatchling, Weanling) - 4 to 8	
		weeks - 1.1 to 3.1 cm	

12 . Ecological information

Acute LC50 11000000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 to 10 cm	96 hours
Acute LC50 >100 mg/L	Daphnia	96 hours
Acute LC50 3715000 to 4432000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 10000000 to 11500000 ug/L Marine water	Fish - Bleak - Alburnus alburnus - 8 cm	96 hours
Acute LC50 6772000 to 7710000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 6386000 to 7461000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 5577000 to 6557000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 6325000 to 7413000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Acute LC50 14200000 to 15100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 30 days - 19.4 mm - 0.099 g	96 hours
Acute LC50 6076000 to 7115000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
Chronic NOEC <6.3 g/L Fresh water	Daphnia - Water flea - Daphnia magna	48 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	UN1993	FLAMMABLE LIQUID, N.O.S. (ETHANOL, METHANOL)	3	III		Not available.

PG* : Packing group

15 . Regulatory information

United States

U.S. Federal regulations : **United States inventory (TSCA 8b):**
TSCA 8(d) H and S data reporting: Phenol: 1987

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

15 . Regulatory information

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

SARA 302/304 emergency planning and notification: Crystal Violet

SARA 302/304/311/312 hazardous chemicals: Crystal Violet

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Crystal Violet: Fire hazard

Clean Water Act (CWA) 307: Phenol

Clean Water Act (CWA) 311: Phenol

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

**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.

**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: Ethyl Alcohol

**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: Ethyl Alcohol

**Rhode Island Hazardous
Substances**

: None of the components are listed.

Canada

WHMIS (Canada)

: Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2B: Material causing other toxic effects (Toxic).

15 . Regulatory information

Canadian lists : **CEPA Toxic substances:** None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Ethyl alcohol
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.

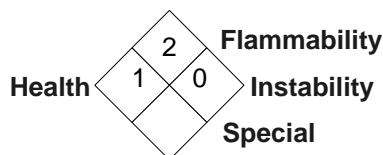
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): Not determined.
Japan inventory (ENCS): All components are listed or exempted.
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.) :



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.