

# Safety Data Sheet

## Crystal Violet, Lillie's

### Section 1 - Chemical Product and Company Identification

**SDS Name:** Crystal Violet, Lillie's

**Catalog Numbers:** SO-500

**Company Identification:** Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.  
10 ELECTRONICS AVENUE  
DANVERS, MA 01923

**For information, call:** 978-739-4883

**Emergency Number:** 800-424-9300

**For CHEMTREC assistance, call:** 800-424-9300

### Section 2 - Hazards Identification

#### GHS Classifications

H226-Flammable liquids: 3

H303-Acute toxicity, oral: 5

H319-Serious eye damage/eye irritation: 2A

H351-Carcinogenicity: 2

H370-Specific target organ toxicity, single exposure: 1

H372-Specific target organ toxicity, repeated exposure: 1

H401-Hazardous to the aquatic environment, acute hazard: 2

H411-Hazardous to the aquatic environment, long-term hazard: 2

21.8% of the mixture consists of ingredients of unknown acute dermal toxicity.

2.8% of the mixture consists of ingredients of unknown acute inhalation toxicity.

#### Pictograms or Hazard symbols and Hazard statement(s):



Signal Word: Danger

#### Hazard Statements:

H226-Flammable liquid and vapor

H303-May be harmful if swallowed

H319-Causes serious eye irritation

H351-Suspected of causing cancer  
 H370-Causes damage to organs (target organs: respiratory system, central nervous system, and optic nerve)  
 H372-Causes damage to organs through prolonged or repeated exposure (target organs: kidney, liver, spleen, and blood)  
 H401-Toxic to aquatic life  
 H411-Toxic to aquatic life with long lasting effects

### Precautionary Statements:

P201-Obtain special instructions before use.  
 P202-Do not handle until all safety precautions have been read and understood.  
 P210-Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.  
 P233-Keep container tightly closed.  
 P240-Ground and bond container and receiving equipment.  
 P241-Use explosion-proof electrical/ventilating/lighting equipment.  
 P242-Use non-sparking tools.  
 P243-Take action to prevent static discharges.  
 P260-Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264-Wash thoroughly after handling.  
 P270-Do not eat, drink, or smoke when using this product.  
 P273-Avoid release to the environment.  
 P280-Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P312-If swallowed: Call a Poison Center/doctor if you feel unwell.  
 P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P305+P351+P338-If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P311-If exposed or concerned: Call a Poison Center/doctor.  
 P308+P313-If exposed or concerned: Get medical advice/attention.  
 P314-Get medical advice/attention if you feel unwell.  
 P337+P313-If eye irritation persists: Get medical advice/attention.  
 P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam to extinguish.  
 P391-Collect spillage.  
 P403+P235-Store in a well-ventilated place. Keep cool.  
 P405-Store locked up.  
 P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 - Composition, Information on Ingredients
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CAS#	Chemical Name	Percent
548-62-9	Crystal Violet	2 w/v
6009-70-7	Ammonium Oxalate Monohydrate	0.8 w/v
64-17-5	Ethyl Alcohol	19 v/v
67-56-1	Methyl Alcohol	1 v/v
7732-18-5	Water	Balance

## Section 4 - First Aid Measures

**Eye Exposure:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get medical attention.

**Dermal Exposure:** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention.

**Oral Exposure:** If swallowed, get immediate medical advice. Rinse mouth with water.

**Inhalation Exposure:** If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

## Section 5 - Fire Fighting Measures

**General Information:** Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable liquid. Can release vapors that form explosive mixtures at temperatures above the flash point. Use water spray to keep fire-exposed containers. Containers may explode in the heat of a fire.

**Extinguishing Media:** For small fires, use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

**Hazardous Combustion Products:** Carbon oxides, nitrogen oxides, nitrogen, ammonia, hydrogen chloride gas, halogenated compounds, formaldehyde, irritating and toxic fumes and gases.

**Flash Point:** Not available

**Autoignition Temperature:** Not available

**Explosion Limits, Lower:** Not available

**Upper:** Not available

**NFPA Rating:** (estimated) Health: 2; Flammability: 3; Instability: 0

NOTE: Static discharge could act as an ignition source.

## Section 6 - Accidental Release Measures

### **Procedure(s) of Personal Precaution(s):**

Wear personal protective equipment. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Keep away from heat. Eliminate all sources of ignition.

**Methods for Cleaning up:** Absorb with inert material such as sand, earth, or vermiculite. Do NOT absorb with combustible material such as saw dust or cellulosic material. Carefully sweep up and containerize for proper disposal. Use only non-sparking tools. Use explosion-proof equipment and take precautionary measures against static discharge. Do not release to the environment. Do not release to drains.

## Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Keep in a tightly closed and non-metal container. Store in a cool, dry, and well-ventilated area. Protect from direct sunlight. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Use proper grounding procedures to avoid static electricity. Keep away from incompatible materials. Protect from heat. Vapors heavier than air may travel considerable distance and ignite or explode.

NOTE: Static discharge could act as an ignition source.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### **Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**Exposure Limits:**

<b>Chemical Name</b>	<b>ACGIH - TLV</b>	<b>NIOSH - IDLH</b>	<b>OSHA - Final PELs</b>
Crystal Violet CAS#548-62-9	Not listed	Not listed	Not listed
Ammonium Oxalate Monohydrate CAS#6009-70-7	Not listed	Not listed	Not listed
Ethyl Alcohol CAS#64-17-5	1000 ppm STEL	1000 ppm TWA 1900 mg/m <sup>3</sup> TWA 3300 ppm IDLH	1000 ppm TWA 1900 mg/m <sup>3</sup> TWA
Methyl Alcohol CAS#67-56-1	200 ppm TWA 250 ppm Skin STEL	200 ppm TWA 260 mg/m <sup>3</sup> TWA 250 ppm STEL 325 mg/m <sup>3</sup> STEL 6000 ppm IDLH	200 ppm TWA 260 mg/m <sup>3</sup> TWA

**OSHA Vacated PELs:** Ethyl Alcohol: 1000 ppm TWA; 1900 mg/m<sup>3</sup> TWA  
Methyl Alcohol: 200 ppm TWA; 260 mg/m<sup>3</sup> TWA; 250 ppm STEL;  
325 mg/m<sup>3</sup> Skin STEL

Section 9 - Physical and Chemical Properties
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**Physical State:** Liquid  
**Appearance:** Dark purple  
**Odor:** Alcohol-like  
**Vapor Pressure:** Not available  
**Odor Threshold:** Not available  
**Vapor Density:** Not available  
**pH:** Approx. 5.4  
**Relative Density:** Not available  
**Melting point/freezing point:** Not available  
**Solubility:** Soluble in water  
**Boiling Point:** Not available  
**Flash Point:** Not available  
**Evaporation Rate:** Not available  
**Flammability (solid, gas):** Not available  
**Partition coefficient: n-octanol/water:** Not available  
**Autoignition Temperature:** Not available  
**Decomposition Temperature:** Not available  
**Viscosity:** Not available  
**Specific Gravity/Density:** Not available

Section 10 - Stability and Reactivity
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**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Avoid direct sunlight and extremely high or low temperatures.  
Avoid all possible sources of ignition (spark or flame). Keep away from hot surfaces and

avoid incompatible materials.

**Incompatibilities with Other Materials:** Oxidizing agents, acids, strong bases, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium-tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, and potassium dioxide.

**Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides, nitrogen, ammonia, hydrogen chloride gas, halogenated compounds, formaldehyde, irritating and toxic fumes and gases.

Section 11 - Toxicological Information
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**CAS#548-62-9 Crystal Violet:**

LD50 Oral: 420 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: Not available

**Carcinogenicity:** Crystal Violet CAS#548-62-9 is not listed by NTP, ACGIH, OSHA, or California Prop. 65. Crystal Violet is listed by IARC (Group 2B, Possibly Carcinogenic to Humans).

**CAS#6009-70-7 Ammonium Oxalate Monohydrate:**

LD50 Oral: Not available

LD50 Dermal: Not available

LC50 Inhalation: Not available

**Carcinogenicity:** Ammonium Oxalate Monohydrate CAS#6009-70-7 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

**CAS#64-17-5 Ethyl Alcohol: RTECS#: KQ6300000**

LD50 Oral: 10470 mg/kg (rat)

LD50 Dermal: Not available

LC50 Inhalation: 124.7 mg/L 4h (rat)

**Tumorigen, mutagen, reproductive effector per RTECS.**

Draize test, rabbit, eye: 500 mg/24h Mild Irritant.

Skin: Repeated exposure may cause skin dryness or cracking.

Ethyl Alcohol overexposure may lead to headache, dizziness, tiredness, nausea, and vomiting.

**Carcinogenicity:** Ethyl Alcohol CAS#64-17-5 is not listed by OSHA. Ethyl Alcohol is listed by IARC (Group 1, Carcinogenic to Humans), NTP (Known Carcinogen), and ACGIH (A3, Animal Carcinogen). Ethyl Alcohol is listed by California Prop. 65 as a developmental carcinogen (alcoholic beverages only).

**CAS#67-56-1 Methyl Alcohol: RTECS#: PC1400000**

LD50 Oral: 100.1 mg/kg (expert judgement)

LD50 Dermal: 300.1 mg/kg (expert judgement)

LC50 Inhalation: 3.1 mg/L 4h (expert judgement)

**Mutagen, reproductive effector per RTECS.**

Draize test, rabbit, eye: 100 mg/24h Moderate Irritant.

Draize test, rabbit, skin: 20 mg/24h Moderate Irritant.

**Carcinogenicity:** Methyl Alcohol CAS#67-56-1 is not listed by IARC, NTP, ACGIH, or OSHA. Methyl Alcohol is listed by California Prop. 65 as a developmental carcinogen.

**Information on the likely routes of exposure:** Routes of entry anticipated: oral, dermal, inhalation, and eye.

**Epidemiology:** Not available.

**Teratogenicity:** Not available.

**Reproductive Effects:** Ethyl Alcohol and Methyl Alcohol are reproductive effectors per RTECS.

**Developmental Effects:** Not available.

**Neurotoxicity:** Not available.

**Mutagenicity:** Ethyl Alcohol and Methyl Alcohol are mutagens per RTECS.

**Specific Organ Toxicity, Single Exposure:** Respiratory system, central nervous system, and optic nerve.

**Specific Organ Toxicity, Repeated Exposure:** Kidney, liver, spleen, and blood.

**Symptoms associated with exposure:** Prolonged or repeated exposure may cause nausea, headache, vomiting. Prolonged or repeated exposure can defat the skin and lead to irritation, cracking, and/or dermatitis. Eye contact may result in corneal damage, blindness, pain, irritation, watering, redness, blurred or double vision. Causes damage to organs if in contact with skin, if inhaled or if swallowed. Suspected of causing cancer.

**The toxicological properties of this material have not been thoroughly investigated.**

Section 12 - Ecological Information
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**Ecotoxicity:** Do not release to the environment. Do not release to drains. Toxic to aquatic life. May cause long-term adverse effects to the environment.

**CAS#548-62-9 Crystal Violet:**

LC50, freshwater fish: 0.082 mg/L 96h static (pimephales promelas)(fathead minnow)

EC50, water flea: 0.24-0.5 mg/L 48h static (daphnia magna)

ErC50, algae: 0.025-0.8 mg/L 72h static (pseudokirchneriella subcapitata)(green algae)

EC50, bacteria: 10-100 mg/L

**CAS#6009-70-7 Ammonium Oxalate Monohydrate:**

EC50, water flea: >33 mg/L 48h semi-static (daphnia magna)

EC50, algae: 78 mg/L 72h static (pseudokirchneriella subcapitata)(green algae)

**CAS#64-17-5 Ethyl Alcohol:**

LC50, freshwater fish: 14200 mg/L 96h (pimephales promelas)(fathead minnow)

EC50, freshwater algae: 275 mg/L 72h (chlorella vulgaris)  
EC50, water flea: 9268 mg/L 48h  
EC50, water flea: 10800 mg/L 24h  
IC50, bacteria: >1000 mg/L 3h (activated sludge)  
EC50, microtox: 34634 mg/L 30min (photobacterium phosphoreum)  
EC50, microtox: 35470 mg/L 5min (photobacterium phosphoreum)

**CAS#67-56-1 Methyl Alcohol:**

LC50, freshwater fish: 15400 mg/L 96h flow-through (lepomis macrochirus)(bluegill)  
LC50, freshwater fish: 19000 mg/L 96h (oncorhynchus mykiss)(rainbow trout)  
EC50, water flea: 18260 mg/L 96h semi-static (daphnia magna)  
ErC50, algae: 22000 mg/L 96h static (pseudokirchneriella subcapitata)(green algae)  
IC50, bacteria: >1000 mg/L 3h static (activated sludge)

**Persistence and degradability:** Not available.

**Bio-accumulative potential:** Not available.

**Mobility:** Will likely be mobile in the environment due to its water solubility and volatility.

Section 13 - Disposal Considerations

**DISPOSAL:** Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information

**DOT**

Proper shipping name: Alcohols, N.O.S.

UN1987

PG II

Hazard class 3 (flammable)

Section 15 - Regulatory Information

**Canada Regulatory Information**

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information
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**SDS Creation Date:** 2-2-12

**Revision #1:** 1-23-14

**Revision #2:** 4-19-24

**Revision #3:** 1-5-26

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