

# Safety Data Sheet

## Crystal Violet Working Solution

### Section 1 - Chemical Product and Company Identification

**SDS Name:** Crystal Violet Working Solution

**Catalog Numbers:** SO-1218, E-302-1A

**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

H290-Corrosive to metals: 1

H314-Skin corrosion/irritation: 1B

H318-Serious eye damage/eye irritation: 1

H351-Carcinogenicity: 2

H402-Hazardous to the aquatic environment, acute hazard: 3

H412-Hazardous to the aquatic environment, long-term hazard: 3

Approximately 3.7% of the mixture consists of ingredients of unknown acute dermal toxicity.

#### Pictograms or Hazard Symbols and Hazard Statement(s):



Signal Word: Danger

#### Hazard Statements:

H290-May be corrosive to metals

H314-Causes severe skin burns and eye damage

H318-Causes serious eye damage

H351-Suspected of causing cancer

H402-Harmful to aquatic life  
H412-Harmful 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.  
P234-Keep only in original packaging.  
P260-Do not breathe dusts or mists.  
P264-Wash thoroughly after handling.  
P273-Avoid release to the environment.  
P280-Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P330+P331-If swallowed: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353-If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340-If inhaled: Remove person to fresh air and keep comfortable for breathing.  
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+P313-If exposed or concerned: Get medical advice/attention.  
P310-Immediately call a Poison Center/doctor.  
P363-Wash contaminated clothing before reuse.  
P390-Absorb spillage to prevent material damage.  
P405-Store locked up.  
P406-Store in a corrosion resistant container with a resistant liner.  
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

### Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
548-62-9	Crystal Violet	0.4 w/v
64-17-5	Ethyl Alcohol	3.3 v/v
67-56-1	Methyl Alcohol	0.2 v/v
7647-01-0	Hydrochloric Acid (36-38%)	0.4 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. Remove contact lenses if present and easy to do. Continue rinsing. Get immediate 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. Wash clothing before reuse. Get immediate medical attention. May cause deep and penetrating burns.

**Oral Exposure:** If swallowed, get immediate medical advice. Do not induce vomiting. 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:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam.

**Hazardous Combustion Products:** Carbon oxides, nitrogen oxides, hydrogen chloride gas, hydrogen chloride, chlorine fumes, hydrogen gas, 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: 1; Instability: 0

### 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.

**Methods for Cleaning up:** Spilled material may be neutralized with alkaline material (soda ash, lime). Absorb with sand, earth, or vermiculite. Do not use combustible materials such as saw dust. Carefully sweep up and containerize for proper disposal. 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. Ensure adequate ventilation. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Store in a cool, dry, and well-ventilated area. Keep in a tightly closed and non-metal container. Light sensitive. Keep away from incompatible materials.

## 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:

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Crystal Violet CAS#548-62-9	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 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
Hydrochloric Acid CAS#7647-01-0	2 ppm Ceiling	5 ppm Ceiling 7 mg/m <sup>3</sup> Ceiling 50 ppm IDLH	5 ppm Ceiling 7 mg/m <sup>3</sup> Ceiling

**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> STEL  
 Hydrochloric Acid: 5 ppm Ceiling; 7 mg/m<sup>3</sup> Ceiling

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** Dark purple

**Odor:** Odorless

**Vapor Pressure:** Not available

**Odor Threshold:** Not available

**Vapor Density:** Not available

**pH:** Approx. 1.5

**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

**Chemical Stability:** Stable in closed containers under normal storage and handling conditions.

**Conditions to avoid:** Incompatible materials, ignition sources, and excess heat. Avoid direct sunlight.

**Incompatibilities with other materials:** Most common metals, bases, strong oxidizing agents, reducing agents, acids, aldehydes, metal oxides, amines, hydroxides, cyanides, sulfides, sulfites, formaldehyde, carbonates, 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, sodium hypochlorite, alkalis, permanganates, fluorine, metal acetylides, and potassium dioxide.

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

## Section 11 - Toxicological Information

**CAS#548-62-9 Crystal Violet: RTECS#: B09000000**

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, or OSHA. Crystal Violet is listed by IARC (Group 2B, Possibly Carcinogenic to Humans) and California Prop 65. as a carcinogen.

**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.

**CAS#7647-01-0 Hydrochloric Acid: RTECS#: MW4025000**

LD50 Oral: 238-277 mg/kg (rat)  
LD50 Dermal: >5010 mg/kg (rabbit)  
LC50 Inhalation: 1.68 mg/L 1h (rat)

**Carcinogenicity:** Hydrochloric Acid CAS#7647-01-0 is not listed by NTP, ACGIH, OSHA, or California Prop. 65. Hydrochloric Acid is listed by IARC (Group 3, Not Classifiable as to its Carcinogenicity to Humans).

**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 Target Organ Toxicity, Single Exposure:** Not available.

**Specific Target Organ Toxicity, Repeated Exposure:** Not available.

**Symptoms associated with exposure:** Corrosive material. Causes severe skin burns and eye damage. If ingested, causes severe burns of the mouth and throat, and danger of perforation of esophagus and stomach. Eye contact may cause pain, watering, redness, blurred vision, and risk of blindness. Skin contact may cause burns, redness, pain, deep ulcers, skin discoloration, dermatitis. Overexposure may cause nausea, headache, vomiting. Suspected of causing cancer.

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

## Section 12 - Ecological Information

**Ecotoxicity:** Do not release to the environment. Do not release to drains. Harmful to aquatic life with long lasting effects.

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

ErC50, freshwater algae: 0.2 - 0.8 mg/L 72h static (pseudokirchneriella subcapitata) (green algae)

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

LC50, freshwater fish: 0.13 mg/L 96h (pimephales promelas)(fathead minnow)

**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

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 (activated sludge)

**CAS#7647-01-0 Hydrochloric Acid:**

LC50, freshwater fish: 282 mg/L 96h (gambusia affinis)(mosquito fish)

LC50, freshwater fish: 862 mg/L (leuciscus idus)(golden orfe)

EC50, water flea: 56 mg/L 72h (daphnia magna)

**Persistence and degradability:** Not available

**Bio-accumulative potential:** Not available

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

## Section 13 - Disposal Considerations

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

## Section 14 - Transport Information

**DOT**

Proper Shipping Name: Hydrochloric Acid Solution

UN 1789

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

**SDS Creation Date:** 2/2/12

**Revision #1:** 12/1/14 RC

**Revision #2:** 7/30/15

**Revision #3:** 3-1-22

**Revision #4:** 8-3-23

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

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