1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: GRAM CRYSTAL VIOLET
Cat No.: R40052, R40053, R40073
Synonyms: No information available.
Recommended Use: Laboratory chemicals

Company: Remel
Address: 12076 Santa Fe Drive
Lenexa, KS 66215 United States
Telephone: 1-800-255-6730
Fax: 1-800-621-8251

2. HAZARDS IDENTIFICATION

WARNING!

Flammable Liquid. May cause central nervous system effects. Vapors may cause drowsiness and dizziness. May cause eye, skin, and respiratory tract irritation. Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Appearance: Purple
Physical State: Liquid
Odor: No information available

Target Organs: Blood, Reproductive System, Gastrointestinal tract (GI), Central nervous system (CNS), Eyes, Respiratory system, Liver, Skin, Optic nerve

Potential Health Effects:

Acute Effects:

Principle Routes of Exposure:

- Eyes: May cause irritation
- Skin: May cause irritation
- Inhalation: Vapor harmful.
- Ingestion: Poison, may be fatal or cause blindness if swallowed. Cannot be made non-poisonous.

Chronic Effects: Avoid repeated exposure

See Section 11 for additional Toxicological information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>20.0</td>
</tr>
<tr>
<td></td>
<td>Phenol</td>
<td>108-95-2</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td></td>
<td>C.I. Basic violet 1</td>
<td>548-62-9</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td></td>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Rinse immediately with plenty of water and seek medical advice.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water. Consult a physician. Never give anything by mouth to an unconscious person.

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point
36.1°C / 97°F

Method
No information available.

Autoignition Temperature
No information available.

Explosion Limits

<table>
<thead>
<tr>
<th>Upper</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Unsuitable Extinguishing Media
No information available.

Hazardous Combustion Products
No information available.

Sensitivity to mechanical impact
No information available.

Sensitivity to static discharge
No information available.

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation.
Environmental Precautions
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods for Containment and Clean Up
No information available

7. HANDLING AND STORAGE

Handling
Ensure adequate ventilation. Do not breathe vapors or spray mist. Keep container tightly closed. Ensure adequate ventilation. Take precautionary measures against static discharges.

Storage
Keep tightly closed in a dry and cool place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures
Ensure adequate ventilation, especially in confined areas

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>TWA: 1000 ppm</td>
<td>(Vacated) TWA: 1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 1900 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDLH: 3300 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 1000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>TWA: 5 ppm</td>
<td>(Vacated) TWA: 5 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin</td>
<td>TWA: 5 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 19 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDLH: 250 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 5 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 19 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling: 60 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling: 15.6 ppm</td>
<td></td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>TWA: 200 ppm</td>
<td>(Vacated) TWA: 200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEL: 250 ppm</td>
<td>(Vacated) TWA: 260 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Skin</td>
<td>(Vacated) STEL: 325 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Vacated) STEL: 250 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 260 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDLH: 6000 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 200 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 260 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 250 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 325 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>TWA: 1000 ppm</td>
<td>TWA: 1000 ppm</td>
<td>TWA: 1000 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 1880 mg/m³</td>
<td>TWA: 1900 mg/m³</td>
<td>TWA: 1900 mg/m³</td>
</tr>
</tbody>
</table>
Component | Quebec | Mexico OEL (TWA) | Ontario TWAEEV
---|---|---|---
Phenol | TWA: 19 mg/m³  TWA: 5 ppm  Skin | TWA: 19 mg/m³  TWA: 5 ppm  STEL: 10 ppm  STEL: 38 mg/m³  Skin | TWA: 19 mg/m³  TWA: 5 ppm  Skin
Methyl alcohol | TWA: 200 ppm  TWA: 262 mg/m³  STEL: 328 mg/m³  STEL: 250 ppm  Skin | TWA: 200 ppm  TWA: 260 mg/m³  STEL: 250 ppm  STEL: 310 mg/m³  Skin | TWA: 200 ppm  TWA: 260 mg/m³  STEL: 325 mg/m³  STEL: 250 ppm  Skin

**NIOSH IDLH:** Immediately Dangerous to Life or Health

**Personal Protective Equipment**

**Eye/face Protection**

- 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 and body protection**

- Antistatic boots
- Wear fire/flame resistant/retardant clothing
- Impervious gloves

**Respiratory Protection**

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

### 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Physical State:** Liquid
- **Appearance:** Purple
- **Odor:** No information available
- **Odor Threshold:** No information available.
- **pH:** 3.0 - 5.5
- **Vapor Pressure:** No information available.
- **Vapor Density:** No information available.
- **Viscosity:** No information available.
- **Boiling Point/Range:** No information available.
- **Melting Point/Range:** No information available.
- **Decomposition temperature °C:** No information available.
- **Flash Point:** 36.1°C / 97°F
- **Evaporation Rate:** No information available.
- **Specific Gravity:** No information available.
- **Solubility:** No information available.
- **log Pow:** No data available

### 10. STABILITY AND REACTIVITY

**Stability**

- Stable under normal conditions.

**Conditions to Avoid**

- Keep away from open flames, hot surfaces and sources of ignition.
- Heating in air.

**Incompatible Materials**

- Strong oxidizing agents

**Hazardous Decomposition Products**

- None under normal use

**Hazardous Polymerization**

- Hazardous polymerization does not occur

**Hazardous Reactions**

- None under normal processing.
11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>7060 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Phenol</td>
<td>317 mg/kg (Rat)</td>
<td>525 mg/kg (Rat)</td>
<td>316 mg/m³ (Rat) 4h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>630 mg/kg (Rabbit)</td>
<td></td>
</tr>
<tr>
<td>C.I. Basic violet 1</td>
<td>420 mg/kg (Rat)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>5628 mg/kg (Rat)</td>
<td>15800 mg/kg (Rabbit)</td>
<td>64000 ppm (Rat) 4h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>83.2 mg/L (Rat) 4h</td>
</tr>
</tbody>
</table>

Irritation

No information available.

Toxicologically Synergistic Products

No information available.

Chronic Toxicity

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>Not listed</td>
<td>Group 1</td>
<td>Not listed</td>
<td>X</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Possibly Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Sensitization

No information available.

Mutagenic Effects

No information available.

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated.

Endocrine Disruptor Information

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity
<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>Not listed</td>
<td>Not listed</td>
<td>= 34634 mg/L EC50 Photobacterium phosphoreuma 30 min = 35470 mg/L EC50</td>
<td>LC50 48 h 9268 mg/L EC50 24 h 10800 mg/L LC50 48 h 9268 mg/L</td>
</tr>
<tr>
<td>Phenol</td>
<td>EC50 96 h 150 mg/L</td>
<td>Not listed</td>
<td>EC50 21 - 36 mg/L EC50 30 min EC50 = 23.28 mg/L EC50 5 min EC50 = 25.61 mg/L EC50 15 min EC50 = 28.8 mg/L 5 min EC50 = 31.6 mg/L 15 min</td>
<td>EC50 48 h 23.0 mg/L EC50 48 h 13 mg/L EC50 48 h 23.0 mg/L</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>Not listed</td>
<td>Not listed</td>
<td>EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Persistence and Degradability  
No information available

Bioaccumulation/ Accumulation  
No information available

Mobility

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>-0.32</td>
</tr>
<tr>
<td>Phenol</td>
<td>1.47</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>-0.77</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol - T08-95-2</td>
<td>U188</td>
<td>-</td>
</tr>
<tr>
<td>Methyl alcohol - 67-56-1</td>
<td>U154</td>
<td>-</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name  
Not regulated
AQUEOUS ALCOHOL SOLUTION: NOT REGULATED BY CONFORMING TO 49CFR 173.150(E)

TDG
UN-No  
UN1170
Proper Shipping Name  
ETHANOL SOLUTION
Hazard Class  
3
Packing Group  
III

IATA
UN-No  
UN1170
Proper Shipping Name  
ETHANOL SOLUTION
14. TRANSPORT INFORMATION

| Hazard Class | 3 |
| Packing Group | III |

IMDG/IMO Not determined

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>CHINA</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-578-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-13217</td>
<td>X</td>
</tr>
<tr>
<td>Phenol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>203-632-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-28209</td>
<td>X</td>
</tr>
<tr>
<td>C.I. Basic violet 1</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>208-953-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-07006</td>
<td>X</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-659-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KE-23193</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>&lt; 1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Categorization

Acute Health Hazard No
Chronic Health Hazard: No

Fire Hazard: Yes

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

Clean Water Act

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>X</td>
<td>1000 lb</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depletors</th>
<th>Class 2 Ozone Depletors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>1000 lb</td>
<td>1000 lb</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>5000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65

This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>64-17-5</td>
<td>Developmental</td>
<td>-</td>
</tr>
</tbody>
</table>

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td>Phenol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation

Reportable Quantity (RQ): Y

DOT Marine Pollutant: N

DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade: Serious risk, Grade 3

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

WHMIS Hazard Class
B2  Flammable liquid
D2A Very toxic materials

16. OTHER INFORMATION

Prepared By Regulatory Affairs
Remel
Tel: 1-800-255-6730

Creation Date 01-Oct-2009
Print Date 01-Oct-2009
Revision Summary No information available.

Disclaimer
The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS