SAFETY DATA SHEET
Crystal Violet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product name                              Crystal Violet
Product number                      PL.7000, PL.7000/25, PL.7000/100, PL.7001, PL.7002

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses                         Laboratory reagent.
Uses advised against                    No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet
Supplier                                Pro-Lab Diagnostics
                                        3 Bassendale Road
                                        Wirral
                                        Merseyside
                                        CH62 3QL
                                        Tel: 0151 353 1613
                                        Fax: 0151 353 1614
                                        mowen@pro-lab.com

1.4. Emergency telephone number
Emergency telephone                    +44 (0)151 353 1613 Monday to Friday 9.00 to 17.00
                                        +44 (0)7714 429 646 outside the above hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification
Physical hazards: Not Classified
Health hazards: Not Classified
Environmental hazards: Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC) R52/53

2.2. Label elements
Hazard statements: H412 Harmful to aquatic life with long lasting effects.
Precautionary statements: P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with national regulations.

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
### Crystal Violet

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS number</th>
<th>EC number</th>
<th>National workplace exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal Violet</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>2.5 - &lt;5%</td>
</tr>
<tr>
<td>ethanol</td>
<td>67-56-1</td>
<td>200-659-6</td>
<td>0.25 - &lt;0.5%</td>
</tr>
<tr>
<td>C.I. basic violet 3</td>
<td>548-62-9</td>
<td>208-953-6</td>
<td>0.5 - &lt;1%</td>
</tr>
<tr>
<td>methanol</td>
<td>67-56-1</td>
<td>200-659-6</td>
<td>0.25 - &lt;0.5%</td>
</tr>
</tbody>
</table>

#### Classification

- **Flam. Liq. 2 - H225**
- **Acute Tox. 4 - H302**
- **Skin Irrit. 2 - H315**
- **Eye Dam. 1 - H318**
- **Carc. 2 - H351**
- **Aquatic Acute 1 - H400**
- **Aquatic Chronic 1 - H410**
- **Flam. Liq. 2 - H225**
- **Acute Tox. 3 - H301**
- **Acute Tox. 3 - H311**
- **Acute Tox. 3 - H331**
- **STOT SE 1 - H370**
- **Acute Tox. 3 - H311**
- **Acute Tox. 3 - H331**
- **STOT SE 1 - H370**

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

#### SECTION 4: First aid measures

**4.1. Description of first aid measures**

- **Inhalation**: Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
- **Ingestion**: Rinse mouth thoroughly with water. Give plenty of water to drink. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
- **Skin contact**: Wash skin thoroughly with soap and water.
- **Eye contact**: Remove any contact lenses and open eyelids wide apart. Continue to rinse.

**4.2. Most important symptoms and effects, both acute and delayed**

- **Inhalation**: Irritation of nose, throat and airway.
- **Ingestion**: May cause discomfort if swallowed.
- **Skin contact**: Prolonged skin contact may cause redness and irritation.
- **Eye contact**: May cause temporary eye irritation.
Crystal Violet

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting
Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters
Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Keep unnecessary and unprotected personnel away from the spillage. Treat the spilled material according to the instructions in the clean-up section.

6.2. Environmental precautions

Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Contain spillage with sand, earth or other suitable non-combustible material. The product contains substances which are water-soluble and may spread in water systems. The product contains volatile substances which may spread in the atmosphere.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up
Absorb in vermiculite, dry sand or earth and place into containers. Containers with collected spillage must be properly labelled with correct contents and hazard symbol.

6.4. Reference to other sections

Reference to other sections
See Section 11 for additional information on health hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Read and follow manufacturer’s recommendations.

Advice on general occupational hygiene
Avoid contact with eyes and prolonged skin contact.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Store in a cool and well-ventilated place.

7.3. Specific end use(s)
Crystal Violet

Specific end use(s)  The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

ethanol
Long-term exposure limit (8-hour TWA): WEL 1000 ppm  1920 mg/m³

methanol
Long-term exposure limit (8-hour TWA): WEL 200 ppm  266 mg/m³
Short-term exposure limit (15-minute):  WEL 250 ppm  333 mg/m³
Sk

WEL = Workplace Exposure Limit
Sk = Can be absorbed through the skin.

8.2. Exposure controls

Eye/face protection  No specific eye protection required during normal use.

Hand protection  The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Hygiene measures  No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance  Liquid.
Colour  Violet.
Odour  Almost odourless.
Odour threshold  Not determined.
pH  Not determined.
Melting point  Not relevant.
Initial boiling point and range  Not determined.
Flash point  Not determined.
Evaporation rate  Not determined.
Evaporation factor  Not determined.
Flammability (solid, gas)  Not relevant.
Upper/lower flammability or explosive limits  Not relevant.
Vapour pressure  Not determined.
Vapour density  Not determined.
Relative density  Not determined.
Bulk density  Not determined.
Solubility(ies)  Soluble in water.
Crystal Violet

Partition coefficient  Not determined.
Auto-ignition temperature  Not relevant.
Decomposition Temperature  Not relevant.
Viscosity  Not determined.
Explosive properties  Not considered to be explosive.
Oxidising properties  The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information
Other information  No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity  There are no known reactivity hazards associated with this product.

10.2. Chemical stability
Stability  Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions  Will not polymerise.

10.4. Conditions to avoid
Conditions to avoid  Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials
Materials to avoid  No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products
Hazardous decomposition products  None at ambient temperatures. Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity - oral
Notes (oral LD₅₀)  Based on available data the classification criteria are not met.
ATE oral (mg/kg)  66,733.40006673

Acute toxicity - dermal
Notes (dermal LD₅₀)  Based on available data the classification criteria are not met.
ATE dermal (mg/kg)  66,733.40006673

Acute toxicity - inhalation
Notes (Inhalation LC₅₀)  Based on available data the classification criteria are not met.
ATE Inhalation (gases ppm)  155,711.26682238
ATE Inhalation (vapours mg/l)  667.33400067

Skin corrosion/irritation
Crystal Violet

Animal data

Based on available data the classification criteria are not met.

Serious eye damage/irritation

Based on available data the classification criteria are not met.

Respiratory sensitisation

Based on available data the classification criteria are not met.

Skin sensitisation

Based on available data the classification criteria are not met.

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Genotoxicity - in vitro

Based on available data the classification criteria are not met.

Genotoxicity - in vivo

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure

Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Not anticipated to present an aspiration hazard, based on chemical structure.

Toxicological information on ingredients.

ethanol

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 10,470.0

Species Rat

Notes (oral LD₅₀) REACH dossier information. Based on available data the classification criteria are not met.

ATE oral (mg/kg) 10,470.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 124.7

Species Rat

Notes (inhalation LC₅₀) REACH dossier information. Based on available data the classification criteria are not met.

ATE inhalation (vapours mg/l) 124.7

Skin corrosion/irritation
Crystal Violet

**Animal data**
Dose: 0.2 ml, 24 hours, Rabbit Primary dermal irritation index: 0 / 8 REACH dossier information. Not irritating.

**Skin sensitisation**
Guinea pig maximization test (GPMT) - Mouse: Not sensitising. REACH dossier information. Read across data. Based on available data the classification criteria are not met.

**Germ cell mutagenicity**
Gene mutation: Negative. REACH dossier information. Based on available data the classification criteria are not met.

**Genotoxicity - in vitro**
Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

**Carcinogenicity**
IARC Group 1 Carcinogenic to humans.

**Reproductive toxicity**
Two-generation study - NOAEL 15 %, Oral, Mouse P REACH dossier information.
Maternal toxicity: - NOAEL: 16000 ppm, Inhalation, Rat REACH dossier information. Based on available data the classification criteria are not met.

**Specific target organ toxicity - repeated exposure**
LOAEL 4 mL/Kg, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

**Acute toxicity - oral**
Acute toxicity oral (LD₅₀ mg/kg) 420.0
Species Rat
Notes (oral LD₅₀) Raw material suppliers' information.
ATE oral (mg/kg) 420.0

**Skin corrosion/irritation**
Animal data Skin Irrit. 2 - H315 Causes skin irritation.

**Serious eye damage/irritation**
REACH dossier information. Eye Dam. 1 - H318 Causes serious eye damage.

**Germ cell mutagenicity**
Bacterial reverse mutation test: Negative. REACH dossier information. Based on available data the classification criteria are not met.

**Carcinogenicity**
Carc. 2 - H351 Suspected of causing cancer.
## Crystal Violet

### methanol

**Acute toxicity - oral**

**Notes (oral LD₅₀)**


**ATE oral (mg/kg)**

300.0

**Acute toxicity - dermal**

**Notes (dermal LD₅₀)**

Converted acute toxicity point estimate (cATpE) Toxic in contact with skin.

**ATE dermal (mg/kg)**

300

**Acute toxicity - inhalation**

**Notes (inhalation LC₅₀)**

Converted acute toxicity point estimate (cATpE) Toxic if inhaled.

**ATE inhalation (gases ppm)**

700.0

**ATE inhalation (vapours mg/l)**

3.0

### Skin corrosion/irritation

**Animal data**

Dose: 2.5cm x 2.5cm, 20 hours, Rabbit Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.

**Serious eye damage/irritation**

**Serious eye damage/irritation**

Dose: 0.05 ml, 24 hours, Rabbit REACH dossier information. Based on available data the classification criteria are not met.

**Skin sensitisation**

**Skin sensitisation**

Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. REACH dossier information. Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

**Target organs**

STOT SE 1 - H370

### EC Information

#### 12.1. Toxicity

**Toxicity**

Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

**Ecological information on ingredients.**

### ethanol

**Acute toxicity - fish**

LC₅₀, 96 hours: 14200 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.

**Acute toxicity - aquatic invertebrates**

LC₅₀, 48 hours: 5012 mg/l, Ceriodaphnia dubia REACH dossier information.
## Crystal Violet

**Acute toxicity - aquatic plants**
EC₅₀, 72 hours: 11.5 mg/l, Chlorella vulgaris
REACH dossier information.

**Chronic toxicity - aquatic invertebrates**
NOEC, 9 days: 9.6 mg/l, Daphnia magna
REACH dossier information.

### C.I. basic violet 3

**Toxicity**
Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

**Acute aquatic toxicity**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE(C)₅₀</td>
<td>0.1 &lt; L(E)C₅₀ ≤ 1</td>
</tr>
<tr>
<td>M factor (Acute)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Acute toxicity - aquatic invertebrates**
EC₅₀, 48 hours: 0.24 - 0.5 mg/l, Daphnia magna
REACH dossier information.

**Acute toxicity - aquatic plants**
EC₅₀, 72 hours: 0.025 - 0.8 mg/l, Pseudokirchneriella subcapitata
REACH dossier information.

**Chronic aquatic toxicity**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>M factor (Chronic)</td>
<td>1</td>
</tr>
</tbody>
</table>

**methanol**

**Acute toxicity - fish**
LC₅₀, 96 hours: 15400 mg/l, Lepomis macrochirus (Bluegill)
EC₅₀, 96 hours: 12700 mg/l, Lepomis macrochirus (Bluegill)
REACH dossier information.

**Acute toxicity - aquatic invertebrates**
EC₅₀, 96 hours: 18260 mg/l, Daphnia magna
REACH dossier information.

**Acute toxicity - aquatic plants**
EC₅₀, 96 hours: ~ 22000 mg/l, Pseudokirchneriella subcapitata
REACH dossier information.

**Acute toxicity - microorganisms**
IC₅₀, 3 hours: >1000 mg/l, Activated sludge
REACH dossier information.

### 12.2. Persistence and degradability

**Persistence and degradability**
No data available.

**Ecological information on ingredients.**

**ethanol**

**Biodegradation**
Water - Degradation (74%): 10 days
REACH dossier information.
The substance is readily biodegradable.

**Chemical oxygen demand**
1.99 g O₂/g substance REACH dossier information.

### C.I. basic violet 3
Crystal Violet

**Biodegradation**

Water - Degradation (3.6%): 28 days
REACH dossier information.
The substance is readily biodegradable.

**Phototransformation**

Air - DT<sub>50</sub>: 17.2 days
REACH dossier information.

**Biodegradation**

Water - Degradation (95%): 20 days
Water - Degradation (91%): 15 days
Water - Degradation (88%): 10 days
Water - Degradation (76%): 5 days
REACH dossier information.
The substance is readily biodegradable.

12.3. Bioaccumulative potential

**Bioaccumulative potential**
No data available on bioaccumulation.

**Partition coefficient**
Not determined.

**Ecological information on ingredients.**

**ethanol**

**Partition coefficient**
log Pow: -0.35 REACH dossier information.

**C.I. basic violet 3**

**Partition coefficient**
log Pow: 1.172 REACH dossier information.

**methanol**

**Partition coefficient**
log Pow: -0.77 REACH dossier information.

12.4. Mobility in soil

**Mobility**
The product is soluble in water.

**Ecological information on ingredients.**

**ethanol**

**Surface tension**
24.5 mN/m @ 20°C/68°F REACH dossier information.

**C.I. basic violet 3**

**Surface tension**
44.2 mN/m REACH dossier information.

**methanol**

**Mobility**
Mobile.

12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment**
This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects
Crystal Violet

Other adverse effects  Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

**General information**
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Confirm disposal procedures with environmental engineer and local regulations. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out.

**Disposal methods**
Do not empty into drains. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Collect and place in suitable waste disposal containers and seal securely. Dispose of contents/container in accordance with national regulations.

SECTION 14: Transport information

**General**
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
No transport warning sign required.

14.4. Packing group
Not applicable.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user
Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**National regulations**
EH40/2005 Workplace exposure limits.
Crystal Violet

EU legislation

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information

Classification procedures according to Regulation (EC) 1272/2008
Aquatic Chronic 3 - H412: Calculation method.

Revision comments
Classification according to EC 1272/2008 (CLP).

Revision date 09/04/2015
Revision 13
Supersedes date 01/03/2013
SDS number 780
Risk phrases in full
R11 Highly flammable.
R22 Harmful if swallowed.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R38 Irritating to skin.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R40 Limited evidence of a carcinogenic effect.
R41 Risk of serious damage to eyes.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard statements in full
H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H351 Suspected of causing cancer.
H370 Causes damage to organs (Eyes, Central nervous system).
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

The information in this safety data sheet was obtained from current and reliable sources. However, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond Pro-Lab Diagnostics control, it is the users responsibility to perform thorough testing of this product when used in combination with any other product. It is suggested that users familiarise themselves with this safety data sheet before handling the product.