SAFETY DATA SHEET Crystal Violet

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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 againstNo 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 (EC 1272/2008)

Physical hazards Not Classified

Health hazards Carc. 1B - H350

Environmental hazards Aquatic Chronic 3 - H412

Human health Contains a substance/a group of substances which may cause cancer.

Environmental The product contains a substance which may cause long-term adverse effects in the aquatic

environment.

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements H350 May cause cancer.

H412 Harmful to aquatic life with long lasting effects.

Crystal Violet

Precautionary statements P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P308+P313 IF exposed or concerned: Get medical advice/ attention.

P501 Dispose of contents/ container in accordance with national regulations.

Contains C.I. Basic Violet 3 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

Supplementary precautionary P405 Store locked up. statements

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

ethanol 2.5 - < 5%

CAS number: 64-17-5 EC number: 200-578-6 REACH registration number: 01-

2119457610-43-XXXX

Substance with National workplace exposure limits.

Classification

Flam. Liq. 2 - H225 Eye Irrit. 2 - H319

C.I. Basic Violet 3 with ≥ 0.1 % of Michler's ketone (EC no.

0.5 - <1%

202-027-5)

CAS number: 548-62-9 EC number: 208-953-6 M factor (Acute) = 1 M factor (Chronic) = 1

Classification

Acute Tox. 4 - H302 Eye Dam. 1 - H318 Carc. 1B - H350 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

methanol 0.025 - < 0.25%

CAS number: 67-56-1 EC number: 200-659-6 REACH registration number: 01-

2119433307-44-XXXX

Classification

Flam. Liq. 2 - H225 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 3 - H331 STOT SE 1 - H370

The full text for all hazard statements is displayed in Section 16.

Crystal Violet

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

InhalationIrritation of nose, throat and airway.IngestionMay cause discomfort if swallowed.

Skin contact Prolonged skin contact may cause redness and irritation.

Eye contact May cause temporary eye irritation.

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

Crystal Violet

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)

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.

methanol (CAS: 67-56-1)

DNEL Workers - Inhalation; Long term systemic effects: 260 mg/m³

Workers - Inhalation; Short term systemic effects: 260 mg/m³ Workers - Inhalation; Long term local effects: 260 mg/m³ Workers - Inhalation; Short term local effects: 260 mg/m³ Workers - Dermal; Long term systemic effects: 40 mg/kg/day Workers - Dermal; Short term systemic effects: 40 mg/kg/day

General population - Inhalation; Long term systemic effects: 50 mg/m³ General population - Inhalation; Short term systemic effects: 50 mg/m³ General population - Inhalation; Long term local effects: 50 mg/m³ General population - Inhalation; Short term local effects: 50 mg/m³ General population - Dermal; Long term systemic effects: 8 mg/kg/day General population - Dermal; Short term systemic effects: 8 mg/kg/day General population - Oral; Long term systemic effects: 8 mg/kg/day General population - Oral; Short term systemic effects: 8 mg/kg/day

Crystal Violet

PNEC - Fresh water; 20.8 mg/l

- Fresh water, Intermittent release; 1540 mg/l

- Marine water; 2.08 mg/l

- STP; 100 mg/l

Sediment (Freshwater); 77 mg/kgSediment (Marinewater); 7.7 mg/kg

- Soil; 100 mg/kg

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.

Partition coefficient Not determined.

Auto-ignition temperature Not relevant.

Decomposition Temperature Not relevant.

Viscosity Not determined.

Explosive properties Not considered to be explosive.

Crystal Violet

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) 133,336.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 133,336.0

Acute toxicity - inhalation

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

ATE inhalation (gases ppm) 311,117.33

ATE inhalation (vapours mg/l) 1,333.36

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Crystal Violet

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitroBased on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity May cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility 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

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

General information Known or suspected carcinogen for humans. Risk of cancer depends on duration and level of

exposure.

Inhalation No specific symptoms known. May cause respiratory irritation.

Ingestion No specific symptoms known. May cause discomfort if swallowed.

Skin contact No specific symptoms known. Prolonged skin contact may cause temporary irritation.

Eye contact No specific symptoms known. May cause temporary eye irritation.

Route of exposure Inhalation Ingestion Skin and/or eye contact

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

Crystal Violet

Skin corrosion/irritation

Animal data Dose: 0.2 ml, 24 hours, Rabbit Primary dermal irritation index: 0 / 8 REACH dossier

information. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation

Dose: 0.1 mL, 21 days, Rabbit Causes eye irritation. REACH dossier information.

Respiratory sensitisation

Respiratory sensitisation Rat: Not sensitising. 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. Read across data. Based on available data the classification criteria

are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative. REACH dossier information. Based on available data the

classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available

data the classification criteria are not met.

Carcinogenicity

IARC carcinogenicity IARC Group 1 Carcinogenic to humans.

Reproductive toxicity

Reproductive toxicity -

fertility

Two-generation study - NOAEL 15 %, Oral, Mouse P REACH dossier information.

Reproductive toxicity -

development

Maternal toxicity: - NOAEL: 16000 ppm, Inhalation, Rat REACH dossier information.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure LOAEL 4 mL/Kg, Oral, Rat REACH dossier information. Based on available data

the classification criteria are not met.

C.I. Basic Violet 3 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

Acute toxicity - oral

Acute toxicity oral (LD₅o

420.0

mg/kg)

Species Rat

Notes (oral LD₅o) Raw material suppliers' information.

ATE oral (mg/kg) 420.0

Serious eye damage/irritation

Serious eye damage/irritation

REACH dossier information. Eye Dam. 1 - H318 Causes serious eye damage.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative. REACH dossier information. Based on

available data the classification criteria are not met.

Crystal Violet

Carcinogenicity

Carcinogenicity May cause cancer.

methanol

Acute toxicity - oral

Notes (oral LD₅₀) International Programme on Chemical Safety (IPCS) (1997) Environmental Health

Criteria 196: Methanol. Geneva, World Health Organization. Toxic if swallowed.

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Converted acute toxicity point estimate (cATpE) Toxic in contact with skin.

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.

Germ cell mutagenicity

Genotoxicity - in vitro Bacterial reverse mutation test: Negative. REACH dossier information. Based on

available data the classification criteria are not met.

Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available

data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 1 - H370

Target organs Eyes Central nervous system

Specific target organ toxicity - repeated exposure

STOT - repeated exposure LOAEL 2340 mg/kg/day, Oral, Monkey REACH dossier information. Based on

available data the classification criteria are not met.

SECTION 12: Ecological Information

12.1. Toxicity

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

Crystal Violet

Ecological information on ingredients.

ethanol

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 14200 mg/l, Pimephales promelas (Fat-head Minnow)

REACH dossier information.

Acute toxicity - aquatic

LC₅₀, 48 hours: 5012 mg/l, Ceriodaphnia dubia

invertebrates

REACH dossier information.

Acute toxicity - aquatic

EC₅o, 72 hours: 275 mg/l, Chlorella vulgaris

plants

REACH dossier information.

Chronic aquatic toxicity

Chronic toxicity - fish early NOEC, 120 hours: 250 mg/l, Brachydanio rerio (Zebra Fish)

life stage

Chronic toxicity - aquatic

NOEC, 9 days: 9.6 mg/l, Daphnia magna

invertebrates

REACH dossier information.

C.I. Basic Violet 3 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

Toxicity Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Acute aquatic toxicity

LE(C)50 $0.1 < L(E)C50 \le 1$

M factor (Acute) 1

Acute toxicity - aquatic

EC₅₀, 48 hours: 0.24 - 0.5 mg/l, Daphnia magna

invertebrates

REACH dossier information.

Acute toxicity - aquatic

EC₅₀, 72 hours: 0.025 - 0.8 mg/l, Pseudokirchneriella subcapitata

plants

REACH dossier information.

Chronic aquatic toxicity

M factor (Chronic) 1

methanol

Acute aquatic toxicity

LC₅₀, 96 hours: 15400 mg/l, Lepomis macrochirus (Bluegill) Acute toxicity - fish

EC₅₀, 96 hours: 12700 mg/l, Lepomis macrochirus (Bluegill)

REACH dossier information.

Acute toxicity - aquatic

EC₅₀, 96 hours: 18260 mg/l, Daphnia magna

invertebrates

REACH dossier information.

Acute toxicity - aquatic

EC₅₀, 96 hours: ~ 22000 mg/l, Pseudokirchneriella subcapitata

plants

REACH dossier information.

Acute toxicity -

IC₅₀, 3 hours: >1000 mg/l, Activated sludge

microorganisms

REACH dossier information.

12.2. Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

Crystal Violet

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 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

Biodegradation Water - Degradation (3.6%): 28 days

REACH dossier information.

The substance is readily biodegradable.

methanol

Phototransformation Water - DT₅₀: 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 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

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 with ≥ 0.1 % of Michler's ketone (EC no. 202-027-5)

Surface tension 44.2 mN/m REACH dossier information.

Crystal Violet

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.

Ecological information on ingredients.

ethanol

Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

methanol

Results of PBT and vPvB

This substance is not classified as PBT or vPvB according to current EU criteria.

assessment

12.6. Other adverse effects

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 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.

Crystal Violet

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

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.

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16

December 2008 on classification, labelling and packaging of substances and mixtures (as

amended).

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of

Chemicals (REACH) (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms ATE: Acute Toxicity Estimate.

used in the safety data sheet cATpE: Converted Acute Toxicity Point Estimate.

DNEL: Derived No Effect Level.

LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).

LC₅₀: Lethal Concentration to 50 % of a test population.

PNEC: Predicted No Effect Concentration.

BCF: Bioconcentration Factor.

EC₅₀: 50% of maximal Effective Concentration. NOAEL: No Observed Adverse Effect Level. NOEC: No Observed Effect Concentration.

Classification abbreviations

and acronyms

Acute Tox. = Acute toxicity

Aquatic Acute = Hazardous to the aquatic environment (acute)

Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Carc. = Carcinogenicity

Eye Dam. = Serious eye damage

Eye Irrit. = Eye irritation Flam. Liq. = Flammable liquid Skin Irrit. = Skin irritation

Classification procedures

according to Regulation (EC)

1272/2008

Carc. 1B - H350, Aquatic Chronic 3 - H412: Calculation method.

Revision date 01/10/2017

Revision 14

Supersedes date 09/04/2015

SDS number 780

Crystal Violet

Hazard statements in full H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H350 May cause cancer.

H370 Causes damage to organs.

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.