

Creation Date 13-Apr-2010

Revision Date 17-Nov-2014

Revision Number 4

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identification**

**Product Description:** Crystal Violet  
**Cat No. :** M/5370/45, M/5370/46  
**Synonyms** C.I. 42555; Gentian Violet; Basic Violet 3  
**CAS-No** 548-62-9  
**EC-No.** 208-953-6  
**Molecular Formula** C<sub>25</sub> H<sub>30</sub> Cl N<sub>3</sub>

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

**1.3. Details of the supplier of the safety data sheet**

**Company** Fisher Scientific UK  
Bishop Meadow Road, Loughborough,  
Leicestershire LE11 5RG, United Kingdom  
**E-mail address** begel.sdsdesk@thermofisher.com

**1.4. Emergency telephone number**

Tel: 01509 231166  
Chemtrec US: (800) 424-9300  
Chemtrec EU: 001 (202) 483-7616

**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture****CLP Classification - Regulation (EC) No 1272/2008****Physical hazards**

Based on available data, the classification criteria are not met

**Health hazards**

Acute oral toxicity	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1B

**Environmental hazards**

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

**Symbol(s)** T - Toxic  
N - Dangerous for the environment

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

## R-phrases(s)

R45 - May cause cancer  
R22 - Harmful if swallowed  
R41 - Risk of serious damage to eyes  
R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

## 2.2. Label elements



Signal Word

Danger

## Hazard Statements

H302 - Harmful if swallowed  
H318 - Causes serious eye damage  
H350 - May cause cancer  
H410 - Very toxic to aquatic life with long lasting effects

## Precautionary Statements

P201 - Obtain special instructions before use  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
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  
P273 - Avoid release to the environment

## Additional EU labelling

Restricted to professional users

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008	DSD Classification - 67/548/EEC
C.I. Basic violet 1	548-62-9	EEC No. 208-953-6	100	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Xn; R22 Carc.Cat.3; R40 Xi; R41 N; R50-53
Michler's ketone	90-94-8	EEC No. 202-027-5	<0.2	Eye Dam. 1 (H318) Muta. 2 (H341) Carc. 1B (H350)	Xi; R41 Carc.Cat.2; R45 Muta.Cat.3; R68

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.
<b>Protection of First-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Causes eye burns.

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

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire fighting to enter drains or water courses.

#### **Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen chloride gas, Nitrogen oxides (NO<sub>x</sub>).

### 5.3. Advice for firefighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

## 6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### **Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

#### **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

#### **Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

**Derived No Effect Level (DNEL)** No information available

<u>Route of exposure</u>	<b>Acute effects (local)</b>	<b>Acute effects (systemic)</b>	<b>Chronic effects (local)</b>	<b>Chronic effects (systemic)</b>
Oral Dermal Inhalation				

**Predicted No Effect Concentration (PNEC)** No information available.

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

## 8.2. Exposure controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)
Neoprene				
Natural rubber				
PVC				

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	Dark green	
<b>Physical State</b>	Solid	
<b>Odor</b>	Odorless	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	2.5-3.5	10 g/L aq.sol.(20°C)
<b>Melting Point/Range</b>	215 °C / 419 °F	
<b>Softening Point</b>	No data available	

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	Not applicable	Solid
<b>Flammability (solid,gas)</b>	No information available	
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	Not applicable	Solid
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	16 g/L (25°C)	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
C.I. Basic violet 1	0.51	
<b>Autoignition Temperature</b>	Not applicable	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	Not applicable	Solid
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

## 9.2. Other information

<b>Molecular Formula</b>	C25 H30 Cl N3
<b>Molecular Weight</b>	407.99

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions: Light sensitive

### 10.3. Possibility of hazardous reactions

<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

### 10.4. Conditions to avoid

Avoid dust formation. Incompatible products. Excess heat. Exposure to light.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Strong reducing agents.

### 10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride gas. Nitrogen oxides (NO<sub>x</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

#### (a) acute toxicity;

<b>Oral</b>	Category 4
<b>Dermal</b>	No data available
<b>Inhalation</b>	No data available

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;  
Respiratory No data available  
Skin No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; Category 1B

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

Component	EU	UK	Germany	IARC
C.I. Basic violet 1	Carc Cat. 1B			
Michler's ketone	Carc Cat. 1B		Cat. 2	Group 2B

(g) reproductive toxicity; No data available  
Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.  
Developmental Effects Developmental effects have occurred in experimental animals.  
Teratogenicity Teratogenic effects have occurred in experimental animals.

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs None known.

(j) aspiration hazard; Not applicable  
Solid

Other Adverse Effects Tumorigenic effects have been reported in experimental animals. See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed No information available

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecotoxicity effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 12.2. Persistence and degradability

Persistence Not readily biodegradable  
Soluble in water, Persistence is unlikely, based on information available.

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
C.I. Basic violet 1	0.51	No data available

12.4. Mobility in soil The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment No data available for assessment.

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

## 12.6. Other adverse effects

**Endocrine Disruptor Information**  
**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from Residues / Unused Products**

Should not be released into the environment. Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

**Contaminated Packaging**

Dispose of this container to hazardous or special waste collection point.

**European Waste Catalogue (EWC)**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**Other Information**

Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

**14.1. UN number**

UN3077

**14.2. UN proper shipping name**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**14.3. Transport hazard class(es)**

9

**14.4. Packing group**

III

### ADR

**14.1. UN number**

UN3077

**14.2. UN proper shipping name**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**14.3. Transport hazard class(es)**

9

**14.4. Packing group**

III

### IATA

**14.1. UN number**

UN3077

**14.2. UN proper shipping name**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.\*

**14.3. Transport hazard class(es)**

9

**14.4. Packing group**

III

**14.5. Environmental hazards**

Dangerous for the environment  
Product is a marine pollutant according to the criteria set by IMDG/IMO

**14.6. Special precautions for user**

No special precautions required

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

**International Inventories**

X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
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FSUM5370



# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

C.I. Basic violet 1	208-953-6	-		X	X	-	X	X	X	X	X
Michler's ketone	202-027-5	-		X	X	-	X	X	X	X	X

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
C.I. Basic violet 1		Use restricted. See item 28. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	SVHC Candidate list - Carcinogenic (Article 57a)
Michler's ketone		Use restricted. See item 28. (see <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details)	SVHC Candidate list - Carcinogenic (Article 57a)

## National Regulations

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.  
 Take note of Dir 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations  
 Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

### 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of R-phrases referred to under sections 2 and 3

R22 - Harmful if swallowed  
 R41 - Risk of serious damage to eyes  
 R45 - May cause cancer  
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed  
 H318 - Causes serious eye damage  
 H341 - Suspected of causing genetic defects  
 H350 - May cause cancer  
 H351 - Suspected of causing cancer  
 H400 - Very toxic to aquatic life  
 H410 - Very toxic to aquatic life with long lasting effects

### Legend

<p><b>CAS</b> - Chemical Abstracts Service</p> <p><b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances</p> <p><b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances</p> <p><b>IECSC</b> - Chinese Inventory of Existing Chemical Substances</p> <p><b>KECL</b> - Korean Existing and Evaluated Chemical Substances</p> <p><b>WEL</b> - Workplace Exposure Limit</p> <p><b>ACGIH</b> - American Conference of Governmental Industrial Hygienists</p> <p><b>DNEL</b> - Derived No Effect Level</p> <p><b>RPE</b> - Respiratory Protective Equipment</p> <p><b>LC50</b> - Lethal Concentration 50%</p> <p><b>NOEC</b> - No Observed Effect Concentration</p> <p><b>PBT</b> - Persistent, Bioaccumulative, Toxic</p>	<p><b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory</p> <p><b>DSL/NDL</b> - Canadian Domestic Substances List/Non-Domestic Substances List</p> <p><b>ENCS</b> - Japanese Existing and New Chemical Substances</p> <p><b>AICS</b> - Australian Inventory of Chemical Substances</p> <p><b>NZIoC</b> - New Zealand Inventory of Chemicals</p> <p><b>TWA</b> - Time Weighted Average</p> <p><b>IARC</b> - International Agency for Research on Cancer</p> <p><b>PNEC</b> - Predicted No Effect Concentration</p> <p><b>LD50</b> - Lethal Dose 50%</p> <p><b>EC50</b> - Effective Concentration 50%</p> <p><b>POW</b> - Partition coefficient Octanol:Water</p> <p><b>vPvB</b> - very Persistent, very Bioaccumulative</p>
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FSUM5370

# SAFETY DATA SHEET

Crystal Violet

Revision Date 17-Nov-2014

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/MDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

## Training Advice

Chemical incident response training.

<b>Creation Date</b>	13-Apr-2010
<b>Revision Date</b>	17-Nov-2014
<b>Revision Summary</b>	Update to Format.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## 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 Safety Data Sheet**