

SIGMA-ALDRICH

MATERIAL SAFETY DATA SHEET

Date Printed: 03/03/2004

Date Updated: 09/01/2002

Version 1.4

Section 1 - Product and Company Information

Product Name CRYSTAL VIOLET ACS REAGENT
Product Number C6158
Brand SIGMA

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
CRYSTAL VIOLET	548-62-9	Yes

Ingredient Name	CAS #	Percent	SARA 313
CRYSTAL VIOLET	548-62-9	90	No
ZINC FOIL	7440-66-6	1	No
MICHLER'S KETONE	90-94-8	0.2	Yes
MINERAL OIL	8042-47-5	3	No

Formula C₂₅H₃₀ClN₃

Synonyms Adergon * Aizen Crystal Violet * Aizen Crystal Violet Extra Pure * Aniline Violet * Aniline Violet Pyoktanine * Atmonil * Avermin * Axuris * Badil * Basic Violet 3 * Basic Violet BN * Bismuth Violet * Blaues pyoktanin (German) * Brilliant Violet 5B * Calcozine Violet C * Calcozine Violet 6BN * C.I. 42555 * C.I. Basic Violet 3 * Crystal Violet * Crystal Violet 6B * Crystal Violet O * Crystal Violet 5BO * Crystal Violet 6BO * Crystal Violet 10B * Crystal Violet AO * Crystal Violet AON * Crystal Violet BP * Crystal Violet BPC * Crystal Violet Chloride * Crystal Violet Extra Pure * Crystal Violet Extra Pure APN * Crystal Violet Extra Pure APNX * Crystal Violet FN * Crystal Violet HL2 * Crystal Violet Pure DSC * Crystal Violet Pure DSC Brilliant * Crystal Violet SS * Crystal Violet Technical * Crystal Violet USP * Gentsal * Gentian Violet * Gentianaviolett (German) * Gentiaverm * Genticid * Gentiioletten * Hectograph Violet SR * Hecto Violet R * Hexamethyl-p-rosaniline chloride * Hexamethy

RTECS Number: BO9000000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic. Dangerous for the environment.

May cause cancer. May cause heritable genetic damage. Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

HMIS RATING

HEALTH: 2*
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

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. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

N/A

AUTOIGNITION TEMP

N/A

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store in a cool dry place.

SPECIAL REQUIREMENTS

Light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator in nonventilated areas and/or for exposure above the TLV or PEL.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color: Light blue Form: Fine crystals	
Property	Value	At Temperature or Pressure
Molecular Weight	407.99 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	173 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	

Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Refractive Index	N/A
Optical Rotation	N/A
Miscellaneous Data	N/A
Solubility	Solvent: 5 mg/ml EtOH Clear

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Strong reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes severe eye irritation.

Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Prolonged exposure can cause: Nausea, headache, and vomiting.

TOXICITY DATA

Oral

Rat

420 mg/kg

LD50

Intraperitoneal

Rat

8900 UG/KG

LD50

Oral

Mouse

96 mg/kg

LD50

Intraperitoneal

Mouse

5100 UG/KG

LD50

Oral
Rabbit
150 mg/kg
LD50

Intraperitoneal
Rabbit
5 MG/KG
LD50

Intraduodenal
Rabbit
160 MG/KG
LD50

IRRITATION DATA

Skin
Human
3 mg
3D
I
Remarks: Mild irritation effect

Skin
Human
2 mg
2D
I
Remarks: Mild irritation effect

Skin
Guinea pig
6 mg
3D
I

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Species: Rat
Route of Application: Oral
Dose: 10950 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria.
Endocrine: Thyroid tumors.

Species: Mouse
Route of Application: Oral
Dose: 25750 MG/KG
Exposure Time: 2Y
Frequency: C
Result: Tumorigenic: Carcinogenic by RTECS criteria. Kidney, Ureter, Bladder: Tumors. Tumorigenic Effects: Ovarian tumors.

CHRONIC EXPOSURE - TERATOGEN

Species: Rat
Dose: 100 MG/KG

Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Urogenital system.

Species: Rat
Dose: 100 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities.

Species: Rabbit
Dose: 7 MG/KG
Route of Application: Oral
Exposure Time: (6-19D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - MUTAGEN

Result: May alter genetic material.

Species: Human
Dose: 10 UMOL/L
Cell Type: HeLa cell
Mutation test: DNA inhibition

Species: Human
Dose: 500 UG/L
Cell Type: HeLa cell
Mutation test: Cytogenetic analysis

Species: Human
Dose: 500 UG/L
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Rat
Dose: 10 NMOL/L
Cell Type: liver
Mutation test: DNA inhibition

Species: Mouse
Dose: 1 MG/KG
Cell Type: lymphocyte
Mutation test: DNA damage

Species: Hamster
Dose: 500 UG/L
Cell Type: ovary
Mutation test: Cytogenetic analysis

Species: Mammal
Dose: 10 PPH
Cell Type: lymphocyte
Mutation test: DNA

Species: Mammal
Dose: 500 UG/L
Cell Type: Other cell types
Mutation test: Cytogenetic analysis

Species: Non-mammalian
Dose: 500 UG/L
Cell Type: Other cell types
Mutation test: Cytogenetic analysis

Mutation test: Histidine reversion (Ames)

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 40 MG/KG
Route of Application: Oral
Exposure Time: (6-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rabbit
Dose: 7 MG/KG
Route of Application: Oral
Exposure Time: (6-19D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
UN#: 3077
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
IATA UN Number: 3077
Hazard Class: 9
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T N
Indication of Danger: Toxic. Dangerous for the environment.
R: 45 46 22 41 50/53
Risk Statements: May cause cancer. May cause heritable genetic damage. Harmful if swallowed. Risk of serious damage to eyes.

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

S: 45 26 36/37/39 22

Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe dust.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic. Dangerous for the environment.

Risk Statements: May cause cancer. May cause heritable genetic damage. Harmful if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Statements: Avoid exposure - obtain special instructions before use. Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

NOTES: This product is or contains a component that is subject to SARA313 reporting requirements.

TSCA INVENTORY ITEM: Yes

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.