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 * M S D S *
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 * Canadian Centre for Occupational Health and Safety *
 * * * * * (February, 2002) *

*** IDENTIFICATION ***

MSDS RECORD NUMBER : 2340317
 PRODUCT NAME(S) : Gram Crystal Violet
 PRODUCT IDENTIFICATION : Article number: 212525, 4312525, 12293a, 3329-76
 DATE OF MSDS : 2000-04-18
 CURRENCY NOTE : This MSDS was provided to CCOHS in electronic form on
 2000-07-10

*** MANUFACTURER INFORMATION ***

MANUFACTURER : BD Biosciences
 ADDRESS : 7 Loveton Circle
 Sparks Maryland
 U.S.A. 21152
 Telephone: 410-771-0100 800-638-8663
 EMERGENCY TELEPHONE NO. : 410-771-0100
 800-638-8663
 800-424-9300 (Chemtrec)

*** MATERIAL SAFETY DATA ***

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 06/15/2000

Reviewed on 04/18/2000

* * 1 Identification of substance:

- o Product details:
- o Trade name: Gram Crystal Violet
- o Article number: 212525, 4312525, 12293a, 3329-76
- o Manufacturer/Supplier:
 BD Biosciences
 7 Loveton Circle
 Sparks, MD 21152
 Tel: (410)771-0100 or (800)638-8663
- o Information department: Technical Services
- o Emergency information:
 For a chemical emergency, spill, fire, exposure, or accident call BD
 Biosciences at (410)771-0100 or (800)638-8663, or Chem Trec
 (800)424-9300

* 2 Composition/Data on components:

- o Chemical characterization:
- o Identification number(s):
- o EINECS Number: 2089536
- o Chemical characterization
- o Description:
 Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

67-63-0 isopropanol	5.0 %
67-56-1 methanol	2.4 %
64-17-5 ethanol	2.4 %
548-62-9 crystal violet	0.4 %

* * 3 Hazards identification

- o Hazard description: Xn Harmful
- o Information pertaining to particular dangers for man and environment

- R 40 Possible risks of irreversible effects.
- o Classification system
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- o NFPA ratings (scale 0-4)
Health = 2
Fire = 0
Reactivity = 0

* 4 First aid measures

- o General information
Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.
- o After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek medical advice.
In case of unconsciousness place patient on side position for transportation.
- o After skin contact
Immediately wash with water and soap and rinse thoroughly.
- o After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
- o After swallowing
Immediately call a doctor.
Call a doctor immediately.
- o Information for doctor Show this label

* 5 Fire fighting measures

- o Suitable extinguishing agents
CO2, extinguishing powder or water spray. Fight larger fires with water or alcohol resistant foam.
- o Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

* 6 Accidental release measures

- o Person-related safety precautions:
Wear protective equipment. Keep unprotected persons away.
- o Measures for environmental protection: Wipe up with damp sponge or mop.
- o Measures for cleaning/collecting:
Absorb liquid components with liquid-binding material.

* 7 Handling and storage

o Handling

o Information for safe handling:

Ensure good ventilation/exhaustion at the workplace.

o Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

o Storage

o Requirements to be met by storerooms and receptacles: 15 - 30 C

o Information about storage in one common storage facility:

Store away from oxidizing agents.

Do not store together with acids.

o Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

o Class according to regulation on flammable liquids: Void

* 8 Exposure controls and personal protection

o Additional information about design of technical systems:

No further data; see item 7.

Components with limit values that require monitoring at the workplace:

67-63-0 isopropanol

ACGIH TLV: Short-term value: (500) ppm

Long-term value: (400) ppm

(-)

NIOSH REL: Short-term value: 1225 mg/m., 500 ppm

Long-term value: 980 mg/m., 400 ppm

OSHA PEL: 980 mg/m., 400 ppm

64-17-5 ethanol

ACGIH TLV: 1000 ppm

A4

NIOSH REL: 1900 mg/m., 1000 ppm

OSHA PEL: 1900 mg/m., 1000 ppm

67-56-1 methanol

ACGIH TLV: Short-term value: 250 ppm

Long-term value: 200 ppm

Skin; BEI

NIOSH REL: Short-term value: 325 mg/m., 250 ppm

Long-term value: 260 mg/m., 200 ppm

Skin

OSHA PEL: 260 mg/m., 200 ppm

o Additional information:

The lists that were valid during the creation were used as basis.

o Personal protective equipment

o General protective and hygienic measures

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

o Breathing equipment:

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

o Protection of hands: Protective gloves.

o Eye protection: Safety glasses

o Body protection: Protective work clothing (lab coat).

* 9 Physical and chemical properties:

- o Form: Liquid
 - o Color: Violet
 - o Odor: Characteristic
 - o
- | | Value/Range | Unit | Method |
|------------------------------------|---|------|--------|
| o Change in condition | | | |
| o Melting point/Melting range: | Undetermined | | |
| o Boiling point/Boiling range: | Undetermined | | |
| o Flash point: | Not applicable | | |
| o Auto igniting: | Product is not selfigniting. | | |
| o Danger of explosion: | Product does not present an explosion hazard. | | |
| o Density: | Not determined | | |
| o Solubility in / Miscibility with | | | |
| o Water: | Slightly soluble | | |
| o Solvent content: | | | |
| o Organic solvents: | 9.8 % | | |

* 10 Stability and reactivity

- o Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
- o Dangerous reactions Danger of explosion
- o Dangerous products of decomposition:
Nitrogen oxides (NOx)
Carbon monoxide (CO) and carbon dioxide (CO2)
Ammonia (NH4)

* 11 Toxicological information

- o Acute toxicity:
LD/Lc50 values that are relevant for classification:

64-17-5 ethanol
Oral: LD50: 7060 mg/kg (rat)
Inhalative: LC50/4 h: 20000 mg/l (rat)

67-63-0 isopropanol
Oral: LD50: 4570 mg/kg (rat)
Dermal: LD50: 13400 mg/kg (rab)
Inhalative: LC50/4 h: 30 mg/l (rat)

548-62-9 crystal violet
Oral: LD50: 96 mg/kg (mou)

67-56-1 methanol
Oral: LD50: 5628 mg/kg (rat)
- o Primary irritant effect:
- o on the skin: Irritant to skin and mucous membranes.
- o on the eye: Irritating effect.
- o Sensitization: No sensitizing effects known.
- o Subacute to chronic toxicity:
Target organs: thyroid, kidney, ureter or bladder tumors.
- o Additional toxicological information:
Irritant
Carcinogenic
The product shows the following dangers according to internally approved calculation methods for preparations:

* 12 Ecological information:

- o Ecotoxicological effects:
- o Other information:
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- o General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water.

* 13 Disposal considerations

- o Product:
- o Recommendation
Must not be disposed of with solid waste.
Must adhere to state and federal regulations.
Disposal must be made according to the regulations found in 40 CFR 261.
This product is not considered a RCRA hazardous waste. Follow local and state regulations.
- o Uncleaned packagings:
- o Recommended cleansing agent: Water, if necessary with cleansing agents.

* 14 Transport information

- o DOT regulations:
- o Hazard class: -
- o Land transport ADR/RID (cross-border)
- o ADR/RID class: -
- o Maritime transport IMDG:
- o IMDG Class: -
- o Marine pollutant: No
- o Air transport ICAO-TI and IATA-DGR:
- o ICAO/IATA Class: -

* *15 Regulations

- o Product related hazard informations:
The product has been classified and marked in accordance with regulations on hazardous materials.
- o Hazard symbols: Xn Harmful
- o Hazard-determining components of labelling: ethanol
- o Risk phrases: 40 Possible risks of irreversible effects.
- o Safety phrases:
7 Keep container tightly closed.
16 Keep away from sources of ignition - No smoking.
36/37 Wear suitable protective clothing and gloves.
60 This material and its container must be disposed of as hazardous waste.
- o National regulations
- o Additional classification according to Decree on Hazardous Materials:
CERCLA: This product contains ethanol and has a Reporting Quantity (RQ)
of 5,000 lbs.
SARA 311/312: Subject to reporting.
313: Not subject to reporting.
TSCA: This product is exempt under TSCA.
CERCLA: This product contains methanol and has a Reporting Quantity

(RQ) of 5,000 lbs.

SARA 311/312: Maybe subject to reporting.

313: Not subject to reporting.

TSCA: This product is exempt under TSCA.

CERCLA: This product contains isopropanol and has a Reportable
Quantity (RQ) of 100 lbs.

SARA 311/312: Not subject to reporting

313: Maybe subject to reporting

TSCA: This product is exempt under TSCA.

o Technical instructions (air):

Class Share in %

III 9.8

o Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for
water.

* 16 Other information:

To the best of our knowledge, the information contained herein is accurate. However, neither Becton Dickinson or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

o Department issuing MSDS: Safety & Environment Department

o Contact: Technical Service Representative