

03/26/2014

Kit Components

Product code	Description
212539	Gram Stain Set w/Stabilized Iodine

Components:

212539a	Gram Decolorizer
212539b	Gram Safranin
212539c	Gram Crystal Violet
212539d	Gram Iodine (Stabilized)

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

1 Identification

- **Product Identifier**
- **Product Name:** Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)
- **Catalog Number:** 212539
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** In-vitro Diagnostics
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Information Department:** Technical Service
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.
Tel: 32 53 72 04 02

2 Hazard(s) identification

- **Classification of the substance or mixture**

GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xi; Irritant

R36: Irritating to eyes.

F; Highly flammable

R11: Highly flammable.

R67: Vapours may cause drowsiness and dizziness.

- **Information concerning particular hazards for human and environment:**
Has a narcotizing effect.

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Safety Data Sheet
acc. to OSHA HCS

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Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

Label elements**GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

GHS02 GHS07

Signal word Danger**Hazard statements**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

P240 Ground/bond container and receiving equipment.

P233 Keep container tightly closed.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use for extinction: CO₂, powder or water spray.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P403+P235 Store in a well-ventilated place. Keep cool.

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

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**Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)**

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· **NFPA ratings (scale 0-4)**



Health = 2
Flammability = 3
Reactivity = 0

· **HMIS ratings (scale 0-4)**



Health = 2
Flammability = 3
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixture**
- **Description:** Mixture consisting of the following components.

· **Dangerous Components:**

CAS: 67-63-0 EINECS: 200-661-7	isopropanol	Xi R36; F R11 R67	75.0%
CAS: 67-64-1 EINECS: 200-662-2	acetone	Xi R36; F R11 R66-67	25.0%

- **Additional information** Risk phrases refer to section 15.

4 First-aid measures

- **Description of first aid measures**
- **General information** No special measures required.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Call a doctor immediately.
- **Information for doctor** Show this product label or this MSDS.
- **Most important symptoms and effects, both acute and delayed**
Headache
Dizziness
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 15 - 30 °C
- **Information about storage in one common storage facility:**
Do not store together with oxidizing and acidic materials.
Do not store with chloroform.
Do not store with halogens.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

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Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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8 Exposure controls/personal protection

 · **Additional information about design of technical systems:**

No further data; see Section 7.

 · **Control parameters**

 · **Components with limit values that require monitoring at the workplace:**
67-63-0 isopropanol

PEL	980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm

67-64-1 acetone

PEL	2400 mg/m ³ , 1000 ppm
REL	590 mg/m ³ , 250 ppm
TLV	Short-term value: 1782 mg/m ³ , 750 ppm Long-term value: 1188 mg/m ³ , 500 ppm BEI

 · **Additional information:** The lists that were valid during the creation were used as basis.

 · **Exposure controls**

 · **Personal Protective Equipment**

 · **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.

 · **Breathing equipment:**

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
 Use suitable respiratory protective device in case of insufficient ventilation.

 · **Protection of hands:**

Chemical resistant gloves (i.e. nitrile, or equivalent).

 · **Eye protection:** Safety glasses

 · **Body protection:** Protective work clothing (lab coat).

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Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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9 Physical and chemical properties· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

Form: Liquid
Color: Colorless
Clear
Odor: Alcohol-like

· **Change in condition**

Melting point/Melting range: Not determined
Boiling point/Boiling range: 56.1 - 82 °C (133 - 180 °F)

· **Flash point:** -6.7 °C (20 °F)· **Ignition temperature:** 425.0 °C (797 °F)· **Auto igniting:** Product is not self igniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

Lower: 3.5 Vol %
Upper: 18.0 Vol %

· **Vapor pressure at 20 °C (68 °F):** 186.0 hPa (140 mm Hg)· **Density at 20 °C (68 °F):** 2.0 - 2.1 g/cm³· **Solubility in / Miscibility with**

Water: Soluble

· **Solvent content:**

Organic solvents: 100.0 %

· **Other information** No further relevant information available.**10 Stability and reactivity**· **Reactivity**· **Chemical stability**· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known· **Conditions to avoid** No further relevant information available.· **Incompatible materials:** Incompatible materials: strong acids and oxidizers.· **Hazardous decomposition products:** Carbon monoxide (CO) and carbon dioxide (CO₂)

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Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
 Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

67-63-0	isopropanol	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** This material is not expected to be toxic to aquatic life.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.
 RCRA hazardous waste - RCRA # D001 (unused), F003 (spent).
 Must not be disposed of with solid waste.

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**Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)**

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- **Uncleaned packagings:**
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** UN3316

· **UN proper shipping name**

· **ADR** 3316 CHEMICAL KIT
· **IMDG, IATA** CHEMICAL KITS

· **Transport hazard class(es)**

· **DOT, IMDG, IATA**

· **Class** 9 Miscellaneous dangerous substances and articles.

· **Label** 9

· **ADR**

· **Class** 9 (M11) Miscellaneous dangerous substances and articles

· **Label** 9

· **Packing group**

· **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:**

· **Marine pollutant:** No

· **Special precautions for user** Warning: Miscellaneous dangerous substances and articles

· **Danger code (Kemler):** -

· **EMS Number:** F-A,S-P

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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**Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)**

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· **UN "Model Regulation":** UN3316, CHEMICAL KITS, 9, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

67-63-0 isopropanol

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **California Proposition 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **California Proposition 65 - Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **TLV (Threshold Limit Value established by ACGIH)**

67-63-0	isopropanol	A4
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67-64-1	acetone	A4
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· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard statements**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

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acc. to OSHA HCS

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Reviewed On: 03/26/2014

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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· Precautionary statements

- P210 *Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*
- P241 *Use explosion-proof electrical/ventilating/lighting/equipment.*
- P261 *Avoid breathing dust/fume/gas/mist/vapours/spray.*
- P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
- P240 *Ground/bond container and receiving equipment.*
- P233 *Keep container tightly closed.*
- P242 *Use only non-sparking tools.*
- P243 *Take precautionary measures against static discharge.*
- P264 *Wash thoroughly after handling.*
- P271 *Use only outdoors or in a well-ventilated area.*
- P303+P361+P353 *IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P304+P340 *IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*
- P312 *Call a POISON CENTER or doctor/physician if you feel unwell.*
- P337+P313 *If eye irritation persists: Get medical advice/attention.*
- P370+P378 *In case of fire: Use for extinction: CO2, powder or water spray.*
- P405 *Store locked up.*
- P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*
- P403+P235 *Store in a well-ventilated place. Keep cool.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· National regulations**· Additional classification according to Decree on Hazardous Materials:**

CERCLA: This product contains Acetone which has a Reporting Quantity (RQ) of 5000#.

SARA 311/312: Subject to reporting.

313: Acetone and Isopropyl Alcohol are subject to reporting.

TSCA: This product is exempt under TSCA.

· **Water hazard class:** Generally not hazardous for water.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company 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 can not guarantee that these are the only hazards that exist.

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**Safety Data Sheet**
acc. to OSHA HCS

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

Product Name: Gram Decolorizer
(Gram Stain Set w/ Stabilized Iodine)

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· Department issuing MSDS:*Environmental, Health & Safety*
*Created by Michael J. Spinazzola***· Contact:** *Technical Service Representative***· Date of preparation / last revision** *03/26/2014 / -***· Abbreviations and acronyms:***RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer*
*(Regulations Concerning the International Transport of Dangerous Goods by Rail)**IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)**ICAO: International Civil Aviation Organization**ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)**ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3*

US

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

1 Identification

- **Product Identifier**
- **Product Name:** Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)
- **Catalog Number:** 212539
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** In-vitro Diagnostics
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Information Department:** Technical Service
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.
Tel: 32 53 72 04 02

2 Hazard(s) identification

- **Classification of the substance or mixture**

GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapour.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
Xn; Harmful

R40: Limited evidence of a carcinogenic effect.
R10: Flammable.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

GHS02
- **Signal word** Warning

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Safety Data Sheet
 acc. to OSHA HCS

Date Prepared: 03/26/2014

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Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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· Hazard statements

H226 Flammable liquid and vapour.

· Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P240 Ground/bond container and receiving equipment.
 P233 Keep container tightly closed.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· NFPA ratings (scale 0-4)

 Health = 3
 Flammability = 2
 Reactivity = 0

· HMIS ratings (scale 0-4)

 HEALTH 3 Health = 3
 FIRE 2 Flammability = 2
 REACTIVITY 0 Reactivity = 0

· Other hazards
· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients
· Chemical characterization: Mixture
· Description: Mixture consisting of the following components.

· Dangerous Components:

CAS: 64-17-5 EINECS: 200-578-6	ethanol	F R10	19.0%
CAS: 67-56-1 EINECS: 200-659-6	methanol	T R23/24/25-39/23/24/25; F R11	1.0%

· Additional information Risk phrases refer to section 15.

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Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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4 First-aid measures

- **Description of first aid measures**
- **General information**
Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.
- **After inhalation** Seek medical treatment in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for 15 minutes under running water. Then consult a doctor.
- **After swallowing** Immediately call a doctor.
- **Information for doctor** Show this product label or this MSDS.
- **Most important symptoms and effects, both acute and delayed**
Dizziness
Headache
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

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Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
 Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 15 - 30 °C
- **Information about storage in one common storage facility:**
 Store away from oxidizing agents.
- **Further information about storage conditions:**
 Store in cool, dry conditions in well sealed containers.
- **Storage class** II A
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
 No further data; see Section 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

64-17-5 ethanol

PEL	1900 mg/m ³ , 1000 ppm
REL	1900 mg/m ³ , 1000 ppm
TLV	1880 mg/m ³ , 1000 ppm

67-56-1 methanol

PEL	260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal Protective Equipment**
- **General protective and hygienic measures**
 Wash hands before breaks and at the end of work.
- **Breathing equipment:**
 In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

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 acc. to OSHA HCS

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Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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· Protection of hands:

Chemical resistant gloves (i.e. nitrile, or equivalent).

- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

9 Physical and chemical properties

· Information on basic physical and chemical properties
· General Information
· Appearance:

Form:	Liquid
Color:	Red
Odor:	Characteristic

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	79 °C (174 °F)

· Flash point:	38.9 °C (102 °F)
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· Ignition temperature:	425.0 °C (797 °F)
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· Auto igniting:	Product is not self igniting.
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· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
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· Explosion limits:

Lower:	6.5 Vol %
Upper:	22 Vol %

· Vapor pressure at 25 °C (77 °F):	59.0 hPa (44 mm Hg)
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· Density:	Not determined
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· Solubility in / Miscibility with

Water:	Soluble
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· Solvent content:

Organic solvents:	20.0 %
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· Other information	No further relevant information available.
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Safety Data Sheet
 acc. to OSHA HCS

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

(Contd. of page 5)

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
 No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 Carbon monoxide (CO) and carbon dioxide (CO₂)
 Nitrogen oxides (NO_x)
 Hydrogen chloride (HCl)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

64-17-5 ethanol

Oral	LD50	3450 mg/kg (MOU)
		7060 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
 Target organs: eyes, kidneys, tumor formation, reproductive disorders
 Target organs: thyroid, kidney, ureter or bladder tumors.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

US

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Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** This material is not expected to be toxic to aquatic life.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.
RCRA hazardous waste - RCRA # D001 (ignitable).
Must not be disposed of with solid waste.
- **Uncleaned packagings:**
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|----------------------------------|-------------------|
| · UN-Number | |
| · DOT | UN3316 |
| · ADR, IMDG, IATA | 3316 |
| · UN proper shipping name | |
| · ADR | 3316 CHEMICAL KIT |
| · IMDG, IATA | CHEMICAL KITS |

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Product Name: Gram Safranin
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 · **Transport hazard class(es)**

 · **DOT, IMDG, IATA**

 · **Class** 9 Miscellaneous dangerous substances and articles.

 · **Label** 9

 · **ADR**

 · **Class** 9 (M11) Miscellaneous dangerous substances and articles

 · **Label** 9

 · **Packing group**

 · **DOT, ADR, IMDG, IATA** III

 · **Environmental hazards:**

 · **Marine pollutant:** No

 · **Special precautions for user** Warning: Miscellaneous dangerous substances and articles

 · **EMS Number:** F-A,S-P

 · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

 · **UN "Model Regulation":** UN3316, CHEMICAL KITS, 9, III

15 Regulatory information

 · **Safety, health and environmental regulations/legislation specific for the substance or mixture**

 · **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

 · **SARA Section 313 (specific toxic chemical listings)**

64-17-5 ethanol

67-56-1 methanol

(Contd. on page 9)

Safety Data Sheet
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Product Name: Gram Safranin
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· TSCA (Toxic Substances Control Act)

All ingredients are listed.

· California Proposition 65 - Chemicals known to cause cancer

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause developmental toxicity:

64-17-5 ethanol

· Carcinogenic categories
· TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A4

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS02

· Signal word Warning

· Hazard statements

H226 Flammable liquid and vapour.

· Precautionary statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P240 Ground/bond container and receiving equipment.
- P233 Keep container tightly closed.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

US

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Safety Data Sheet
acc. to OSHA HCS

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

Product Name: Gram Safranin
(Gram Stain Set w/ Stabilized Iodine)

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16 Other information

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company 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 can not guarantee that these are the only hazards that exist.

· Department issuing MSDS:

Environmental, Health & Safety
Created by Michael J. Spinazzola

· Contact: Technical Service Representative**· Date of preparation / last revision** 03/26/2014 / 1**· Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

1 Identification

- **Product Identifier**
- **Product Name:** Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)
- **Catalog Number:** 212539
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** *In-vitro Diagnostics*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Information Department:** Technical Service
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**

GHS07

*Acute Tox. 4 H332 Harmful if inhaled.**Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.*

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

*Xn; Harmful**R20-48: Harmful by inhalation. Danger of serious damage to health by prolonged exposure.**R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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Date Prepared: 03/26/2014

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Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

(Contd. of page 1)

· Hazard pictograms

GHS07

· Signal word Warning**· Hazard-determining components of labeling:**

methanol

· Hazard statements

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P271 Use only outdoors or in a well-ventilated area.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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

· NFPA ratings (scale 0-4)

Health = 2

Flammability = 2

Reactivity = 0

· HMIS ratings (scale 0-4)

HEALTH 2 Health = 2

FIRE 2 Flammability = 2

REACTIVITY 0 Reactivity = 0

· Other hazards**· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.**3 Composition/information on ingredients****· Chemical characterization: Substances****· Identification number(s):****· EC number:** 2089536**· Chemical characterization: Mixture****· Description:** Mixture consisting of the following components.

(Contd. on page 3)

Safety Data Sheet

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Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

(Contd. of page 2)

· **Dangerous Components:**

CAS: 67-63-0 EINECS: 200-661-7	isopropanol	Xi R36; F R11 R67	5.0%
CAS: 64-17-5 EINECS: 200-578-6	ethanol	F R10	2.4%
CAS: 67-56-1 EINECS: 200-659-6	methanol	T R23/24/25-39/23/24/25; F R11	2.4%
CAS: 548-62-9 EINECS: 208-953-6	C.I. Basic Violet 3	Xn R22-40; Xi R41; N R50/53 Carc. Cat. 3	0.4%

· **Additional information** Risk phrases refer to section 15.

4 First-aid measures

· **Description of first aid measures**

· **General information**

Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.

· **After inhalation** Seek medical treatment in case of complaints.

· **After skin contact** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact**

Rinse opened eye for 15 minutes under running water. Then consult a doctor.

· **After swallowing** Immediately call a doctor.

· **Information for doctor** Show this product label or this MSDS.

· **Most important symptoms and effects, both acute and delayed**

Headache

Dizziness

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents**

CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**

No further relevant information available.

· **Advice for firefighters**

· **Protective equipment:** No special measures required.

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Safety Data Sheet
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Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

(Contd. of page 3)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Wipe up with damp sponge or mop.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
 Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 15 - 30 °C
- **Information about storage in one common storage facility:**
 Store away from oxidizing agents.
 Do not store together with acids.
- **Further information about storage conditions:**
 Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
 No further data; see Section 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:
67-63-0 isopropanol

PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 984 mg/m ³ , 400 ppm Long-term value: 492 mg/m ³ , 200 ppm BEI

64-17-5 ethanol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
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**Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)**

(Contd. of page 4)

REL Long-term value: 1900 mg/m³, 1000 ppmTLV Short-term value: 1880 mg/m³, 1000 ppm**67-56-1 methanol**PEL Long-term value: 260 mg/m³, 200 ppmREL Short-term value: 325 mg/m³, 250 ppmLong-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 328 mg/m³, 250 ppmLong-term value: 262 mg/m³, 200 ppm

Skin; BEI

· Ingredients with biological limit values:**67-63-0 isopropanol**

BEI 40 mg/L

Medium: urine

Time: end of shift at end of workweek

Parameter: Acetone (background, nonspecific)

67-56-1 methanol

BEI 15 mg/L

Medium: urine

Time: end of shift

Parameter: Methanol (background, nonspecific)

· Additional information: The lists that were valid during the creation were used as basis.**· Exposure controls****· Personal Protective Equipment****· 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.

· Breathing equipment:

In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.

· Protection of hands:

Chemical resistant gloves (i.e. nitrile, or equivalent).

· Eye protection: Safety glasses**· Body protection:** Protective work clothing (lab coat).

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Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

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9 Physical and chemical properties· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

Form: Liquid
Color: Purple
Odor: Characteristic

· **pH-value:** Not applicable· **Change in condition**

Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined

· **Flash point:** 43 °C (109 °F)· **Auto igniting:** Product is not self igniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Density:** Not determined· **Solubility in / Miscibility with****Water:** Slightly soluble· **Solvent content:****Organic solvents:** 9.8 %· **Other information** No further relevant information available.**10 Stability and reactivity**· **Reactivity**· **Chemical stability**· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known· **Conditions to avoid** No further relevant information available.· **Incompatible materials:** Incompatible materials: strong acids and oxidizers.· **Hazardous decomposition products:**

Nitrogen oxides (NO_x)
Carbon monoxide (CO) and carbon dioxide (CO₂)
Ammonia (NH₄)

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Reviewed On: 03/26/2014

Product Name: Gram Crystal Violet
 (Gram Stain Set w/Stabilized Iodine)

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

548-62-9 C.I. Basic Violet 3

Oral LD50 96 mg/kg (mou)

- **Primary irritant effect:**
- **on the skin:** No irritating effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: thyroid, kidney, ureter or bladder tumors.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

67-63-0 isopropanol

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
 Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements.

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Safety Data Sheet
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Reviewed On: 03/26/2014

Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

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*This product is not considered a RCRA hazardous waste.
 Must not be disposed of with solid waste.*

- **Uncleaned packagings:**
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|--|--|
| · UN-Number | |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | Void |
| · ADR | Void |
| · Transport hazard class(es) | |
| · DOT, ADR, ADN, IMDG, IATA | |
| · Class | Void |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

- **SARA Section 313 (specific toxic chemical listings)**

67-63-0	isopropanol
---------	-------------

64-17-5	ethanol
---------	---------

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**Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)**

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67-56-1	methanol
---------	----------

· TSCA (Toxic Substances Control Act)

All ingredients are listed.

· California Proposition 65 - Chemicals known to cause cancer

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause developmental toxicity:

64-17-5	ethanol
---------	---------

· Carcinogenic categories

· TLV (Threshold Limit Value established by ACGIH)

67-63-0	isopropanol	A4
64-17-5	ethanol	A4

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS07

· Signal word Warning

· Hazard-determining components of labeling:

methanol

· Hazard statements

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P271 Use only outdoors or in a well-ventilated area.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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

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Reviewed On: 03/26/2014

Product Name: Gram Crystal Violet
(Gram Stain Set w/Stabilized Iodine)

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company 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 can not guarantee that these are the only hazards that exist.

· **Department issuing MSDS:**

Environmental, Health & Safety
Created by Michael J. Spinazzola

· **Contact:** Technical Service Representative· **Date of preparation / last revision** 03/26/2014 / -· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

1 Identification

- **Product Identifier**
- **Product Name: Gram Iodine (Stabilized)**
- **Catalog Number: 212539**
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** *In-vitro Diagnostics*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771 - 0100 or (800) 638 – 8663
Email Address: Technical_Services@bd.com
- **Emergency telephone number:**
In case of a chemical emergency, spill, fire, exposure, or accident, contact BD Diagnostic Systems (410) 771-0100 or (800)-638-8663, or ChemTrec at (800) 424-9300.
Tel: 32 53 72 04 02

2 Hazard(s) identification

- **Classification of the substance or mixture**

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

H401 Toxic to aquatic life.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Xn; Harmful

R21: Harmful in contact with skin.

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 2)

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Safety Data Sheet
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Date Prepared: 03/26/2014

Reviewed On: 03/26/2014

Product Name: Gram Iodine (Stabilized)

(Contd. of page 1)

· Hazard pictograms

GHS07

· Signal word Warning**· Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H401 Toxic to aquatic life.

· Precautionary statements

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

P273 Avoid release to the environment.

P264 Wash thoroughly after handling.

P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing and wash before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P302+P352 **IF ON SKIN:** Wash with plenty of soap and water.

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

· NFPA ratings (scale 0-4)

Health = 2

Flammability = 1

Reactivity = 0

· HMIS ratings (scale 0-4)

Health = 2

Flammability = 1

Reactivity = 0

· Other hazards**· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.**3 Composition/information on ingredients****· Chemical characterization: Mixture****· Description:** Mixture consisting of the following components.

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· Dangerous Components:

CAS: 25655-41-8	Polyvinylpyrrolidone-Iodine	Xn R21; Xi R36/37/38	10.0%
CAS: 7681-11-0 EINECS: 231-659-4	potassium iodide	Xi R36/37/38	1.9%

· Additional information Risk phrases refer to section 15.

4 First-aid measures

· Description of first aid measures
· General information

Symptoms of poisoning may even occur after several hours; therefore provide medical observation for at least 48 hours after the accident.

· **After inhalation** Seek medical treatment in case of complaints.

· **After skin contact** Immediately wash with water and soap and rinse thoroughly.

· After eye contact

Rinse opened eye for 15 minutes under running water. Then consult a doctor.

· **After swallowing** Call a doctor immediately.

· **Information for doctor** Show this product label or this MSDS.

· Most important symptoms and effects, both acute and delayed

No further relevant information available.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Fire-fighting measures

· Extinguishing media
· Suitable extinguishing agents

CO₂, ABC multipurpose dry chemical or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Special hazards arising from the substance or mixture

No further relevant information available.

· Advice for firefighters

· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.

· **Environmental precautions:** Wipe up with damp sponge or mop.

· **Methods and material for containment and cleaning up:** No special measures required.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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7 Handling and storage

- **Handling**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** 15 - 30 °C
- **Information about storage in one common storage facility:**
Do not store together with oxidizing and acidic materials.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed containers.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal Protective Equipment**
- **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:**
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
- **Protection of hands:**

Chemical resistant gloves (i.e. nitrile, or equivalent).
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing (lab coat).

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9 Physical and chemical properties· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Liquid
· Color:	Dark brown
· Odor:	Characteristic

· **pH-value:** 2.8

- **Change in condition** Undetermined
- **Melting point/Melting range:** Not determined
- **Boiling point/Boiling range:** Not determined

· **Flash point:** > 93.3 °C (> 200 °F)· **Auto igniting:** Product is not self igniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Density:** Not determined· **Solubility in / Miscibility with**· **Water:** Soluble· **Solvent content:**· **Organic solvents:** 0.0 %· **Other information** No further relevant information available.**10 Stability and reactivity**· **Reactivity**· **Chemical stability**· **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known· **Conditions to avoid** No further relevant information available.· **Incompatible materials:**

Incompatible materials: strong acids and oxidizers.

Incompatible materials: bromine, trifluoride, and trichloride.

· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7681-11-0 potassium iodide

Oral	LD50	1862 mg/kg (rat)
------	------	------------------

25655-41-8 Polyvinylpyrrolidone-Iodine

Oral	LD50	8100 mg/kg (mou)
		> 8000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Target organs: central nervous system, endocrine system.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Dispose of material in accordance with federal (40 CFR 261.3), state and local requirements. This product is not considered a RCRA hazardous waste. Must not be disposed of with solid waste.
- **Uncleaned packagings:**
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, ADN, IMDG, IATA** Void
- **UN proper shipping name**
- **DOT, ADR, ADN, IMDG, IATA** Void
- **Transport hazard class(es)**
- **DOT, ADR, ADN, IMDG, IATA**
- **Class** Void
- **Packing group**
- **DOT, ADR, IMDG, IATA** Void
- **Environmental hazards:**
- **Marine pollutant:** No
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** -

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Section 355 (extremely hazardous substances)**
None of the ingredients is listed.

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· SARA Section 313 (specific toxic chemical listings)

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act)

All ingredients are listed.

· California Proposition 65 - Chemicals known to cause cancer

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· California Proposition 65 - Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories**· TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS07

· Signal word Warning**· Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H401 Toxic to aquatic life.

· Precautionary statements

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

P273 Avoid release to the environment.

P264 Wash thoroughly after handling.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing and wash before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

To the best of our knowledge, the information contained herein is accurate. However, neither Becton, Dickinson and Company 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 can not guarantee that these are the only hazards that exist.

· **Department issuing MSDS:**

Environmental, Health & Safety
Created by Michael J. Spinazzola

· **Contact:** Technical Service Representative· **Date of preparation / last revision** 03/26/2014 / -· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

: Hazardous to the aquatic environment - AcuteHazard, Category 2