



## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/09/2014

Version 1.1

### SECTION 1. Identification

#### Product identifier

Catalog No. 101603  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 1a: Crystal violet solution, phenol-free

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

#### Emergency telephone

800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS Classification

Flammable liquid, Category 3, H226  
Eye irritation, Category 2, H319  
Carcinogenicity, Category 2, H351  
Chronic aquatic toxicity, Category 3, H412

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

#### GHS-Labeling

##### Hazard pictograms



##### Signal Word

Warning

##### Hazard Statements

H226 Flammable liquid and vapor.  
H319 Causes serious eye irritation.

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H351 Suspected of causing cancer.  
H412 Harmful to aquatic life with long lasting effects.

### *Precautionary Statements*

P210 Keep away from heat.  
P273 Avoid release to the environment.  
P281 Use personal protective equipment as required.  
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.

### **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

### **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Chemical nature                      Ethanolic dye solution.

### **Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*ethanol (>= 5 % - < 10 % )*

64-17-5

*hexamethylpararosaniline (crystal violet) (>= 1 % - < 5 % )*

548-62-9

Exact percentages are being withheld as a trade secret.

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *Inhalation*

After inhalation: fresh air. Consult a physician.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

irritant effects

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

The following applies to aromatic amines in general: systemic effect: methemoglobinemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea, and spasms, principal symptom: cyanosis (blue discoloration of the blood).

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

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Mixture with combustible ingredients.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapors possible in the event of fire.

Pay attention to flashback.

### Advice for firefighters

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Cool closed containers exposed to fire with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains. Risk of explosion.

### Methods and materials for containment and cleaning up

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Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>ethanol (64-17-5)</i>			
ACGIH	Short Term Exposure Limit (STEL):	1,000 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	1,000 ppm 1,900 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	1,000 ppm 1,900 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	1,000 ppm 1,900 mg/m <sup>3</sup>	

### Engineering measures

#### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

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### *Eye/face protection*

Safety glasses

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

Flame retardant antistatic protective clothing

### *Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## **SECTION 9. Physical and chemical properties**

Physical state	liquid
Color	dark violet
Odor	of ethanol
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point/boiling range	no data available
Flash point	126.7 °F (52.6 °C)
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapor pressure	no data available
Relative vapor density	No information available.
Density	0.987 g/cm <sup>3</sup>
Relative density	No information available.

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Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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## SECTION 10. Stability and reactivity

### Reactivity

Vapor/air-mixtures are explosive at intense warming.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Stabilizer

glycol, unspecified

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3-one [EC no. 220-239-6] (3:1)

alkylcarboxylate, modified

### Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### Conditions to avoid

Heating.

### Incompatible materials

no information available

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

*Likely route of exposure*

Eye contact, Skin contact

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## *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

Liver

Blood

reproductive system

## *Acute oral toxicity*

Acute toxicity estimate: 42,000 mg/kg

Calculation method

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

## *Acute inhalation toxicity*

Symptoms: Possible damages:, Irritation symptoms in the respiratory tract.

## *Eye irritation*

Mixture causes serious eye irritation.

## *Carcinogenicity*

Carcinogen classifications of IARC, NTP, California proposition 65 for Ethanol CAS 64-17-5 apply to beverage use only. This product is NOT intended for this use.

## *CMR effects*

Carcinogenicity:

Evidence of a carcinogenic effect.

## *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

## *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

## *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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OSHA	No ingredient of this product present at levels greater than or
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	equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

The following applies to aromatic amines in general: systemic effect: methemoglobinemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea, and spasms, principal symptom: cyanosis (blue discoloration of the blood).

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## Ingredients

### ethanol

#### *Acute oral toxicity*

LD50 rat: 6,200 mg/kg (IUCLID)

#### *Acute inhalation toxicity*

LC50 rat: 95.6 mg/l; 4 h (RTECS)

#### *Skin irritation*

rabbit

Result: No irritation

OECD Test Guideline 404

#### *Sensitization*

Sensitization test (Magnusson and Kligman):

Result: negative

(IUCLID)

#### *Germ cell mutagenicity*

#### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

hexamethylpararosaniline (crystal violet)



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*Acute oral toxicity*  
LD50 rat: 420 mg/kg (RTECS)

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### *Additional ecological information*

Discharge into the environment must be avoided.

## Ingredients

ethanol

*Toxicity to fish*  
LC50 *Leuciscus idus* (Golden orfe): 8,140 mg/l; 48 h (IUCLID)

*Toxicity to daphnia and other aquatic invertebrates*  
EC5 *E.sulcatum*: 65 mg/l; 72 h (Lit.)

EC50 *Daphnia magna* (Water flea): 9,268 - 14,221 mg/l; 48 h (IUCLID)

*Toxicity to algae*  
IC5 *Scenedesmus quadricauda* (Green algae): 5,000 mg/l; 7 d (Lit.)

*Toxicity to bacteria*  
EC5 *Pseudomonas putida*: 6,500 mg/l; 16 h (IUCLID)

*Biodegradability*  
94 %  
OECD Test Guideline 301E  
Readily biodegradable.

*Biochemical Oxygen Demand (BOD)*  
930 - 1,670 mg/g (5 d)  
(Lit.)

*Theoretical oxygen demand (ThOD)*  
2,100 mg/g  
(Lit.)

*Ratio COD/ThBOD*  
90 %  
(Lit.)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.  
hexamethylpararosaniline (crystal violet)

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*Toxicity to fish*

LC50 *S.gairdnerii*: 0.7 mg/l; 96 h (External MSDS)

*Toxicity to bacteria*

EC50 Bacteria: 10 - 100 mg/l (External MSDS)

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Combustible Liquid  
Target organ effects  
Toxic by ingestion  
Corrosive to eyes  
Carcinogen

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

#### DEA List I

Not listed

#### DEA List II

Listed

#### Ingredients

ethyl methyl ketone 78-93-3

### US State Regulations

#### Massachusetts Right To Know

##### Ingredients

ethanol

#### Pennsylvania Right To Know

##### Ingredients

water

ethanol

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## New Jersey Right To Know

### Ingredients

water  
ethanol  
hexamethylpararosaniline (crystal violet)

## California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

### Ingredients

ethanol

## California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

### Ingredients

ethanol

## Notification status

TSCA: Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.  
DSL: This product contains one or several components that are not on the Canadian DSL nor NDSL.

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

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

H226	Flammable liquid and vapor.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/09/2014

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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### SECTION 1. Identification

#### Product identifier

Catalog No. 101603  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 1b: Sodium hydrogen carbonate solution

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

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Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS-Labeling

#### OSHA Hazards

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

#### Other hazards

None known.

### SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution of inorganic and organic compounds.

### SECTION 4. First aid measures

Description of first-aid measures

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---

### *Inhalation*

After inhalation: fresh air.

### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

### *Eye contact*

After eye contact: rinse out with plenty of water.

### *Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

We have no description of any toxic symptoms.

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

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.

Ambient fire may liberate hazardous vapors.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains.

### **Methods and materials for containment and cleaning up**

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Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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### SECTION 7. Handling and storage

#### Precautions for safe handling

Observe label precautions.

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

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

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### SECTION 8. Exposure controls/personal protection

#### Exposure limit(s)

Contains no substances with occupational exposure limit values.

#### Engineering measures

#### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

#### *Respiratory protection*

Not required; except in case of aerosol formation.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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### SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	No strong odor known.

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Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.016 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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### SECTION 10. Stability and reactivity

#### Reactivity

See below

#### Chemical stability

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---

The product is chemically stable under standard ambient conditions (room temperature) .

### *Stabilizer*

glycol, unspecified

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3-one [EC no. 220-239-6] (3:1)

alkylcarboxylate, modified

### **Possibility of hazardous reactions**

Violent reactions possible with:

The generally known reaction partners of water.

### **Conditions to avoid**

no information available

### **Incompatible materials**

no information available

### **Hazardous decomposition products**

no information available

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## **SECTION 11. Toxicological information**

### **Information on toxicological effects**

#### *Likely route of exposure*

Eye contact, Skin contact

#### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

### **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1b: Sodium hydrogen carbonate solution	

---

ACGIH by NTP.  
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

### Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.  
Handle in accordance with good industrial hygiene and safety practice.

### Ingredients

---

## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### *Additional ecological information*

Discharge into the environment must be avoided.

### Ingredients

---

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1b: Sodium hydrogen carbonate solution	

---

## Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

## Sea transport (IMDG)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

No OSHA Hazards

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

No SARA Hazards

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1b: Sodium hydrogen carbonate solution	

---

## SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know

*Ingredients*

water

### New Jersey Right To Know

*Ingredients*

water

Sodium hydrogencarbonate

### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## Notification status

TSCA:

Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.

DSL:

This product contains one or several components that are not on the Canadian DSL nor NDSL.

---

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1b: Sodium hydrogen carbonate solution	

---

Revision Date 01/09/2014

---

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/09/2014

Version 1.1

### SECTION 1. Identification

#### Product identifier

Catalog No. 101603

Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 1c: Working solution from solution 1a and 1b ratio (1:1)

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

#### Emergency telephone

800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### Other hazards

None known.

### SECTION 3. Composition/information on ingredients

### SECTION 4. First aid measures

#### Description of first-aid measures

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

We have no description of any toxic symptoms.

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

No information available.

### SECTION 5. Fire-fighting measures

#### Extinguishing media

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1c: Working solution from solution 1a and 1b ratio (1:1)	

---

## Special hazards arising from the substance or mixture

### Advice for firefighters

none

---

## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### Environmental precautions

No special precautionary measures necessary.

### Methods and materials for containment and cleaning up

---

## SECTION 7. Handling and storage

### Precautions for safe handling

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

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

---

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Engineering measures

#### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

---

## SECTION 9. Physical and chemical properties

Physical state	No information available.
Color	No information available.
Odor	No strong odor known.
Odor Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point	No information available.

---

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1c: Working solution from solution 1a and 1b ratio (1:1)	

---

Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

---

### SECTION 10. Stability and reactivity

#### Reactivity

See below

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Dangerous reactions are not expected handling the product according to its intended use.

#### Conditions to avoid

no information available

#### Incompatible materials



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1c: Working solution from solution 1a and 1b ratio (1:1)	

---

no information available

## Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

### Further information

Handle in accordance with good industrial hygiene and safety practice.

---

## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

---

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 1c: Working solution from solution 1a and 1b ratio (1:1)	

---

Environmentally hazardous --

## Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

## Sea transport (IMDG)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## SECTION 15. Regulatory information

---

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/09/2014

---

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/09/2014

Version 1.1

### SECTION 1. Identification

#### Product identifier

Catalog No. 101603  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 2: Lugol's solution stabilised

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS Classification

Chronic aquatic toxicity, Category 3, H412  
For the full text of the H-Statements mentioned in this Section, see Section 16.

#### GHS-Labeling

*Hazard Statements*  
H412 Harmful to aquatic life with long lasting effects.

*Precautionary Statements*  
P273 Avoid release to the environment.

#### OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

#### Other hazards

None known.

### SECTION 3. Composition/information on ingredients

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears Reagent 2: Lugol's solution stabilised	

---

Chemical nature                      Aqueous solution of inorganic and organic compounds.

## Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine ( $\geq 1\%$  -  $< 5\%$ )*

25655-41-8

Exact percentages are being withheld as a trade secret.

---

## SECTION 4. First aid measures

### Description of first-aid measures

*Inhalation*

After inhalation: fresh air.

*Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

*Eye contact*

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

*Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

irritant effects

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

No information available.

---

## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### Advice for firefighters

*Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

---

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## SECTION 6. Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

---

## SECTION 7. Handling and storage

### **Precautions for safe handling**

Observe label precautions.

### **Conditions for safe storage, including any incompatibilities**

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

---

## SECTION 8. Exposure controls/personal protection

### **Exposure limit(s)**

Contains no substances with occupational exposure limit values.

### **Engineering measures**

### **Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### *Eye/face protection*

Safety glasses

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

protective clothing

### *Respiratory protection*

Not required; except in case of aerosol formation.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

---

## **SECTION 9. Physical and chemical properties**

Physical state	liquid
Color	brown
Odor	odorless
Odor Threshold	not applicable
pH	2.0 at 68 - 72 °F (20 - 22 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.02 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears Reagent 2: Lugol's solution stabilised	

---

Water solubility	soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

---

## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### *Stabilizer*

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

### Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### Conditions to avoid

no information available

### Incompatible materials

no information available

### Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact

#### *Skin irritation*

Possible damages: slight irritation

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

### *Eye irritation*

Possible damages: slight irritation

### *Sensitization*

Sensitization possible in predisposed persons.

### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

Handle in accordance with good industrial hygiene and safety practice.

## **Ingredients**

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

### *Eye irritation*

rabbit

Result: Eye irritation

(External MSDS)

---

## **SECTION 12. Ecological information**

### **Ecotoxicity**

No information available.

### **Persistence and degradability**

No information available.

### **Bioaccumulative potential**

---



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

No information available.

### Mobility in soil

No information available.

### Additional ecological information

Discharge into the environment must be avoided.

### Ingredients

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

#### Toxicity to fish

LC50 *Leuciscus idus* (Golden orfe): 4.6 - 10 mg/l; 96 h  
DIN 38412 (External MSDS)

#### Toxicity to bacteria

EC50 *Pseudomonas putida*: 380 mg/l; 17 h  
DIN 38412 (External MSDS)

#### Biodegradability

< 20 %  
(External MSDS)  
Not readily eliminated from water.

---

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

**Special precautions for user** no

## Sea transport (IMDG)

<b>UN number</b>	UN 1993
<b>Proper shipping name</b>	FLAMMABLE LIQUID, N.O.S.
<b>Class</b>	3
<b>Packing group</b>	II
<b>Environmentally hazardous</b>	--
<b>Special precautions for user</b>	yes
<b>EmS</b>	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## SECTION 15. Regulatory information

### United States of America

#### OSHA Hazards

Eye irritant

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

#### SARA 311/312 Hazards

Acute Health Hazard

#### SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

#### DEA List I

Not listed

#### DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 2: Lugol's solution stabilised	

---

## Remarks

No components are subject to the Massachusetts Right to Know Act.

### **Pennsylvania Right To Know**

#### *Ingredients*

water

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

### **New Jersey Right To Know**

#### *Ingredients*

water

homopolymer from 1-vinyl-2-pyrrolidone, complex with iodine

### **California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## **Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

---

## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

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

H412 Harmful to aquatic life with long lasting effects.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/09/2014

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/09/2014

Version 1.1

### SECTION 1. Identification

#### Product identifier

Catalog No. 101603  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 3: Decolorization solution

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS Classification

Flammable liquid, Category 2, H225  
Eye irritation, Category 2, H319  
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336  
For the full text of the H-Statements mentioned in this Section, see Section 16.

#### GHS-Labeling

##### Hazard pictograms



Signal Word  
Danger

##### Hazard Statements

H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

### *Precautionary Statements*

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

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

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

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

### **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

### **Other hazards**

None known.

---

## **SECTION 3. Composition/information on ingredients**

Chemical nature                      Mixture of solvents.

### **Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*ethanol (>= 70 % - < 90 % )*

64-17-5

*acetone (>= 10 % - < 30 % )*

67-64-1

*ethyl methyl ketone (>= 0.1 % - < 1 % )*

78-93-3

Exact percentages are being withheld as a trade secret.

---

## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *Inhalation*

After inhalation: fresh air. Consult doctor if feeling unwell.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

---

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

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

irritant effects, Dermatitis, Drowsiness, drowsiness, narcosis

Drying-out effect resulting in rough and chapped skin.

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

The following applies to ketones in general: when vapors/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract.

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

No information available.

---

## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

### Advice for firefighters

*Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains. Risk of explosion.

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

---

## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

---

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>ethanol (64-17-5)</i>			
ACGIH	Short Term Exposure Limit (STEL):	1,000 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	1,000 ppm 1,900 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	1,000 ppm 1,900 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	1,000 ppm 1,900 mg/m <sup>3</sup>	

#### *acetone (67-64-1)*

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears Reagent 3: Decolorization solution	

---

ACGIH	Time Weighted Average (TWA):	500 ppm
	Short Term Exposure Limit (STEL):	750 ppm
NIOSH/GUIDE	Recommended exposure limit (REL):	250 ppm 590 mg/m <sup>3</sup>
OSHA_TRANS	PEL:	1,000 ppm 2,400 mg/m <sup>3</sup>
Z1A	Time Weighted Average (TWA):	750 ppm 1,800 mg/m <sup>3</sup>
	Short Term Exposure Limit (STEL):	1,000 ppm 2,400 mg/m <sup>3</sup>

## Engineering measures

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

### Eye/face protection

Safety glasses

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### Other protective equipment:

Flame retardant antistatic protective clothing

### Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

---

## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	of solvents
Odor Threshold	No information available.

---



## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears Reagent 3: Decolorization solution	

---

pH	No information available.
Melting point	No information available.
Boiling point	No information available.
Flash point	14 °F (-10 °C)
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	0.79 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	> 797 °F (> 425 °C)

---

### SECTION 10. Stability and reactivity

#### Reactivity

Vapors may form explosive mixture with air.

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

## Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide silver, with, Nitric acid

silver compounds, with, Ammonia

potassium permanganate, with, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapors with:

halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum

Nitric acid, with, potassium permanganate

## Conditions to avoid

Warming.

## Incompatible materials

rubber, various plastics

## Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### Information on toxicological effects

*Likely route of exposure*

Eye contact, Skin contact

*Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

Liver

Blood

reproductive system

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

### *Acute oral toxicity*

Symptoms: Possible damages:, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

### *Eye irritation*

Mixture causes serious eye irritation.

### *Carcinogenicity*

Carcinogen classifications of IARC, NTP, California proposition 65 for Ethanol CAS 64-17-5 apply to beverage use only. This product is NOT intended for this use.

### *Specific target organ systemic toxicity - single exposure*

Mixture may cause drowsiness or dizziness.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

The following applies to ketones in general: when vapors/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract. The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

## **Ingredients**

---

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

## ethanol

### *Acute oral toxicity*

LD50 rat: 6,200 mg/kg (IUCLID)

### *Acute inhalation toxicity*

LC50 rat: 95.6 mg/l; 4 h (RTECS)

### *Skin irritation*

rabbit

Result: No irritation

OECD Test Guideline 404

### *Sensitization*

Sensitization test (Magnusson and Kligman):

Result: negative

(IUCLID)

### *Germ cell mutagenicity*

#### *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(National Toxicology Program)

## acetone

### *Acute oral toxicity*

LD50 rat: 5,800 mg/kg (RTECS)

### *Acute inhalation toxicity*

LC50 rat: 76 mg/l; 4 h (Lit.)

### *Acute dermal toxicity*

LD50 rabbit: 20,000 mg/kg (IUCLID)

### *Skin irritation*

rabbit

Result: No irritation

(External MSDS)

### *Eye irritation*

rabbit

Result: Eye irritation

(External MSDS)

### *Sensitization*

Sensitization test: guinea pig

Result: negative

(Lit.)

### *Germ cell mutagenicity*

#### *Genotoxicity in vivo*

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(National Toxicology Program)

#### *Genotoxicity in vitro*

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

(National Toxicology Program)

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

Ames test  
Result: negative  
(National Toxicology Program)

*Carcinogenicity*  
Did not show carcinogenic effects in animal experiments. (IUCLID)

## ethyl methyl ketone

*Acute oral toxicity*  
LD50 rat: 3,400 mg/kg  
OECD Test Guideline 401  
LD50 rat: > 2,600 mg/kg (IUCLID)

*Acute dermal toxicity*  
LD50 rabbit: > 8,000 mg/kg (Lit.)

*Skin irritation*  
rabbit  
Result: slight irritation  
(IUCLID)

*Eye irritation*  
rabbit  
Result: Severe irritations  
(IUCLID)

*Sensitization*  
Sensitization test: guinea pig  
Result: negative  
(IUCLID)

*Germ cell mutagenicity*  
*Genotoxicity in vitro*  
Ames test  
Result: negative  
(IUCLID)

Mutagenicity (mammal cell test): chromosome aberration.  
Result: negative  
(National Toxicology Program)

---

## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### *Additional ecological information*

Discharge into the environment must be avoided.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 101603 Version 1.1  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears  
Reagent 3: Decolorization solution

---

## Ingredients

### ethanol

#### *Toxicity to fish*

LC50 *Leuciscus idus* (Golden orfe): 8,140 mg/l; 48 h (IUCLID)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 *E. sulcatum*: 65 mg/l; 72 h (Lit.)

EC50 *Daphnia magna* (Water flea): 9,268 - 14,221 mg/l; 48 h (IUCLID)

#### *Toxicity to algae*

IC50 *Scenedesmus quadricauda* (Green algae): 5,000 mg/l; 7 d (Lit.)

#### *Toxicity to bacteria*

EC50 *Pseudomonas putida*: 6,500 mg/l; 16 h (IUCLID)

#### *Biodegradability*

94 %

OECD Test Guideline 301E

Readily biodegradable.

#### *Biochemical Oxygen Demand (BOD)*

930 - 1,670 mg/g (5 d)

(Lit.)

#### *Theoretical oxygen demand (ThOD)*

2,100 mg/g

(Lit.)

#### *Ratio COD/ThBOD*

90 %

(Lit.)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

### acetone

#### *Toxicity to fish*

LC50 *Oncorhynchus mykiss* (rainbow trout): 5,540 mg/l; 96 h (Lit.)

#### *Toxicity to daphnia and other aquatic invertebrates*

EC50 *Daphnia magna* (Water flea): 6,100 mg/l; 48 h (Lit.)

EC50 *E. sulcatum*: 28 mg/l; 72 h (maximum permissible toxic concentration) (Lit.)

#### *Toxicity to algae*

IC50 *M. aeruginosa*: 530 mg/l; 8 d (maximum permissible toxic concentration) (IUCLID)

#### *Toxicity to bacteria*

EC50 activated sludge: 59 - 67.4 mg/l; 30 min (Lit.)

EC50 *Pseudomonas putida*: 1,700 mg/l; 16 h (maximum permissible toxic concentration) (IUCLID)

#### *Biodegradability*

91 %; 28 d

(IUCLID)

Readily biodegradable.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

*Biochemical Oxygen Demand (BOD)*  
1,850 mg/g (5 d)  
(IUCLID)

*Chemical Oxygen Demand (COD)*  
2,070 mg/g  
(IUCLID)

*Theoretical oxygen demand (ThOD)*  
2,200 mg/g  
(Lit.)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

## ethyl methyl ketone

*Toxicity to fish*  
LC50 Pimephales promelas (fathead minnow): 3,220 mg/l; 96 h (IUCLID)

*Toxicity to daphnia and other aquatic invertebrates*  
EC50 Daphnia magna (Water flea): 5,091 mg/l; 48 h (IUCLID)

*Toxicity to algae*  
IC5 Scenedesmus quadricauda (Green algae):  $\geq$  4,300 mg/l; 7 d (IUCLID)

*Toxicity to bacteria*  
EC5 Pseudomonas putida: 1,150 mg/l; 16 h (IUCLID)

## *Biodegradability*

Readily biodegradable.

*Theoretical oxygen demand (ThOD)*  
2,440 mg/g  
(Lit.)

*Ratio BOD/ThBOD*  
BOD5 76 %  
(IUCLID)

*Ratio COD/ThBOD*  
95 %  
(IUCLID)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

---

## SECTION 15. Regulatory information

### United States of America

OSHA Hazards  
Flammable Liquid  
Target organ effects  
Eye irritant

---



# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

## SARA 311/312 Hazards

Fire Hazard  
Acute Health Hazard  
Chronic Health Hazard

## SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Listed

### Ingredients

acetone	67-64-1
ethyl methyl ketone	78-93-3

## US State Regulations

### Massachusetts Right To Know

#### Ingredients

ethanol  
acetone

### Pennsylvania Right To Know

#### Ingredients

ethanol  
acetone

### New Jersey Right To Know

#### Ingredients

ethanol  
acetone

### California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

# SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 3: Decolorization solution	

---

## *Ingredients*

ethanol

## **California Prop 65 Components**

WARNING: this product contains a chemical known in the State of California to cause cancer.

## *Ingredients*

ethanol

## **Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

---

## **SECTION 16. Other information**

### **Training advice**

Provide adequate information, instruction and training for operators.

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

H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date01/09/2014

---

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 01/09/2014

Version 1.1

### SECTION 1. Identification

#### Product identifier

Catalog No. 101603  
Product name Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears

Reagent 4: Fuchsin solution, phenol-free

#### Relevant identified uses of the substance or mixture and uses advised against

Identified uses In vitro diagnostic reagent, Reagent for analysis

#### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

### SECTION 2. Hazards identification

#### GHS Classification

Flammable liquid, Category 3, H226

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

#### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Warning

*Hazard Statements*

H226 Flammable liquid and vapor.

*Precautionary Statements*

P210 Keep away from heat.

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
Product name	Gram-Color modified (phenol-free) staining kit for Gram staining method on bacteriological smears	
	Reagent 4: Fuchsin solution, phenol-free	

---

### OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

### Other hazards

None known.

---

### SECTION 3. Composition/information on ingredients

Chemical nature                      Aqueous ethanolic solution.

#### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*ethanol (>= 5 % - < 10 % )*

64-17-5

Exact percentages are being withheld as a trade secret.

---

### SECTION 4. First aid measures

#### Description of first-aid measures

##### *Inhalation*

After inhalation: fresh air.

##### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

##### *Eye contact*

After eye contact: rinse out with plenty of water.

##### *Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

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

No information available.

---

### SECTION 5. Fire-fighting measures

#### Extinguishing media

##### *Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder, Water

##### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

---

## SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number	101603	Version1.1
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	Reagent 4: Fuchsin solution, phenol-free	

---

### Special hazards arising from the substance or mixture

Mixture with combustible ingredients.  
Vapors are heavier than air and may spread along floors.  
Forms explosive mixtures with air at elevated temperatures.  
Pay attention to flashback.  
Development of hazardous combustion gases or vapors possible in the event of fire.

### Advice for firefighters

*Special protective equipment for fire-fighters*  
In the event of fire, wear self-contained breathing apparatus.

### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.  
Remove container from danger zone and cool with water.

---

## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact.  
Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

---

## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Store at +15°C to +25°C (+59°F to +77°F).

The data applies to the entire pack.

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# SAFETY DATA SHEET

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>ethanol (64-17-5)</i>			
ACGIH	Short Term Exposure Limit (STEL):	1,000 ppm	
NIOSH/GUIDE	Recommended exposure limit (REL):	1,000 ppm 1,900 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	1,000 ppm 1,900 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	1,000 ppm 1,900 mg/m <sup>3</sup>	

### Engineering measures

#### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

#### Eye/face protection

Safety glasses

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

#### Other protective equipment:

Flame retardant antistatic protective clothing

#### Respiratory protection

Not required; except in case of aerosol formation.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	dark red

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Odor	alcoholic
Odor Threshold	No information available.
pH	5.4 - 6.0 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	126.7 °F (52.6 °C)
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	0.986 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

---

## SECTION 10. Stability and reactivity

### Reactivity

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Vapor/air-mixtures are explosive at intense warming.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### *Stabilizer*

glycol, unspecified

mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H - isothiazol-3-one [EC no. 220-239-6] (3:1)

alkylcarboxylate, modified

### Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### Conditions to avoid

Heating.

### Incompatible materials

no information available

### Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

Liver

Blood

reproductive system

#### *Carcinogenicity*

Carcinogen classifications of IARC, NTP, California proposition 65 for Ethanol CAS 64-17-5 apply to beverage use only. This product is NOT intended for this use.

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### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).

The following applies to aliphatic alcohols in general: effect when product is not handled and used properly: mucosal irritations; after absorption of large quantities: narcosis.

Handle in accordance with good industrial hygiene and safety practice.

## **Ingredients**

ethanol

### *Acute oral toxicity*

LD50 rat: 6,200 mg/kg (IUCLID)

### *Acute inhalation toxicity*

LC50 rat: 95.6 mg/l; 4 h (RTECS)

### *Skin irritation*

rabbit

Result: No irritation

OECD Test Guideline 404

### *Sensitization*

Sensitization test (Magnusson and Kligman):

Result: negative

(IUCLID)

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*Germ cell mutagenicity*  
*Genotoxicity in vitro*  
Ames test  
Salmonella typhimurium  
Result: negative  
(National Toxicology Program)

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

No information available.

### *Additional ecological information*

Discharge into the environment must be avoided.

## Ingredients

### ethanol

*Toxicity to fish*  
LC50 *Leuciscus idus* (Golden orfe): 8,140 mg/l; 48 h (IUCLID)

*Toxicity to daphnia and other aquatic invertebrates*  
EC5 *E.sulcatum*: 65 mg/l; 72 h (Lit.)

EC50 *Daphnia magna* (Water flea): 9,268 - 14,221 mg/l; 48 h (IUCLID)

*Toxicity to algae*  
IC5 *Scenedesmus quadricauda* (Green algae): 5,000 mg/l; 7 d (Lit.)

*Toxicity to bacteria*  
EC5 *Pseudomonas putida*: 6,500 mg/l; 16 h (IUCLID)

*Biodegradability*  
94 %  
OECD Test Guideline 301E  
Readily biodegradable.

*Biochemical Oxygen Demand (BOD)*  
930 - 1,670 mg/g (5 d)  
(Lit.)

*Theoretical oxygen demand (ThOD)*  
2,100 mg/g  
(Lit.)

*Ratio COD/ThBOD*  
90 %  
(Lit.)

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Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Class	3
Packing group	II
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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## SECTION 15. Regulatory information

### United States of America

OSHA Hazards  
Combustible Liquid

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## Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

## SARA 311/312 Hazards

Fire Hazard  
Chronic Health Hazard

## SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Listed

### Ingredients

ethyl methyl ketone 78-93-3

## US State Regulations

### Massachusetts Right To Know

#### Ingredients

ethanol

### Pennsylvania Right To Know

#### Ingredients

water

ethanol

[4-(4-aminophenyl)(4-iminocyclohexa-2,5-dienylidene)methyl]-2-methylaniline hydrochloride

### New Jersey Right To Know

#### Ingredients

water

ethanol

### California Prop 65 Components

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

#### Ingredients

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---

ethanol

### California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

#### *Ingredients*

ethanol

### Notification status

TSCA:	Not Listed on TSCA inventory. For Research and Development Use only. Not For Manufacturing or Commercial Purposes.
DSL:	This product contains one or several components that are not on the Canadian DSL nor NDSL.

---

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

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

H226 Flammable liquid and vapor.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 01/09/2014

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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