Safety Data Sheet

Cat. # BE-204

Isolation & Characterization of Bacteria

Size: For 6 groups of 4-5 or 24-30 students.
Ampicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Revision date: 5/11/2017 Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Substance
Substance name : Ampicillin Discs
CAS-No. : 69-52-3
Product code : D031
Product group : Raw material

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

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com, www.GBiosciences.com

1.4. Emergency telephone number
Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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<td>Ampicillin Discs</td>
<td>(CAS-No.) 69-52-3</td>
<td>100</td>
<td>Not classified</td>
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3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
No additional information available

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.
### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media


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

Hazardous decomposition products in case of fire: Toxic fumes may be released.

#### 5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

Emergency procedures: Ventilate spillage area.

##### 6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Avoid release to the environment.

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

Methods for cleaning up: Mechanically recover the product.

Other information: Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions: Store in a well-ventilated place. Keep cool.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

**Hand protection:**

Protective gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment

**Environmental exposure controls:**

Avoid release to the environment.

### SECTION 9: Physical and chemical properties

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

**Physical state:** Solid

**Colour:** No data available

**Odour:** No data available
Ampicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

5/11/2017 (Version: 1.1) EN (English) 3/5

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified
12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations
13.1. Waste treatment methods

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not regulated
Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group
Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated
Ampicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Ampicillin Discs is not on the REACH Candidate List
Ampicillin Discs is not on the REACH Annex XIV List
Ampicillin Discs is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information
Safety Data Sheet applicable for regions : GB - United Kingdom

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Substance
Substance name: Penicillin Discs
EC-No.: 204-038-0
CAS-No.: 113-98-4
Product code: D071
Type of product: Pharmaceutical, The data relate to the active substance, Pure substance

Formula: C16H17KN2O4S

Synonyms: 4-thia-1-azabicyclo(3,2,0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-(2-phenylacetamido)-, monopotassium salt / 4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[(phenylacetyl)amino]- (2S,5R,6R)-, monopotassium salt / 4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[(phenylacetyl)amino]-, monopotassium salt, [2S-(2alpha,5alpha,6beta)]- / 4-thia-1-azabicyclo(3.2.0)heptane-2-carboxylic acid, 3,3-dimethyl-7-oxo-6-[(phenylacetyl)amino]- [2S-(2alpha,5alpha,6beta)]-, monopotassium salt / A14-50119 / benzylpenicillin potassium / benzylpenicillin acid potassium salt / capicillin / C-cillin / cillin / cilloral potassium salt / cintrisul / cospen potassium salt / cristapen / crystapen / eskacillin / falafen / folpen / forpen / hipercilina / hyasorb / penalen / penalev / penicillin 2 / penicillin G K / penicillin G potassium / penicillin G potassium G / penisem / penised / pentid / pertids / pertids '200' / pertids '250' / pertids '400' / pertids '800' / pfizerpen / pfizerpen G / potassium (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(phenylacetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / potassium (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(phenylacetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / potassium (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(phenylacetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / potassium (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(phenylacetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / potassium 6-(2-phenylacetamido)penicillanate / potassium 6-(2-phenylacetamido)penicillanate; potassium (2S,5R,6R)-3,3-dimethyl-7-oxo-6-(phenylacetamido)-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / potassium benzylpenicillin / potassium benzylpenicillin G / potassium benzylpenicillin / potassium penicillin G / potassium penicillin / potassium salt of benzylpenicillin / potassium-3,3-dimethyl-7-oxo-6-(phenylacetyl)amino)-[2S-(2alpha,5alpha,6beta)]-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate / qidpen G / scotcil / SK-penicillin G / sugracillin / tabilin / tu cillin / van pen G

Product group: Raw material
BIG No: 21436

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

1.2.1. Relevant identified uses

Main use category: Educational Purposes
Use of the substance/mixture: Chemical substance for research, industrial use: component, Pharmaceutical product: active ingredient, Antibiotic

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.
Penicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
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</tr>
</tbody>
</table>

3.2. Mixtures
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures
First-aid measures general

First-aid measures after inhalation
: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact
: Wash immediately with lots of water. Do not apply (chemical) neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after eye contact
: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/effects
: See patient information on package leaflet.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media

Unsuitable extinguishing media
: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture
Fire hazard
: DIRECT FIRE HAZARD: Not easily combustible. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD: Heating increases the fire hazard.

Explosion hazard
: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

Hazardous decomposition products in case of fire
: Toxic fumes may be released.

5.3. Advice for firefighters
Precautionary measures fire
: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions
: Dilute toxic gases with water spray. Take account of environmentally hazardous firefighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Protective equipment
: Gloves. Protective clothing.

Emergency procedures
: Mark the danger area. No naked flames. Wash contaminated clothes.
6.1.2. For emergency responders

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product. Consult "Material-handling" to select material of containers. Dam up the solid spill.

Methods for cleaning up: Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Do not discharge the waste into the drain. Powdered form: no compressed air for pumping over. Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe very strict hygiene - avoid contact. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in a well-ventilated place. Keep cool.


Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. alcohols.

Storage area: Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.

Special rules on packaging: SPECIAL REQUIREMENTS: closing, correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials: SUITABLE MATERIAL: plastics.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: No data available. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: No data available

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Skin and body protection:

Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:

Dust production: dust mask with filter type P2

Environmental exposure controls:

Avoid release to the environment.
Penicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Solid
- Appearance: Crystalline solid. Powder. Pellets/tablets. May be present in various forms.
- Molecular mass: 372.49 g/mol
- Colour: White.
- Odour: No data available on odour.
- Odour threshold: No data available
- pH: 6 - 6.5 (0.4 %)
- pH solution: 0.4 %
- Relative evaporation rate (butylacetate=1): No data available
- Melting point: 214 °C
- Freezing point: Not applicable
- Boiling point: Not applicable
- Flash point: Not applicable
- Auto-ignition temperature: > 210 °C
- Decomposition temperature: 214 °C
- Flammability (solid, gas): Non flammable.
- Vapour pressure: < 0.1 hPa (20 °C)
- Relative vapour density at 20 °C: No data available
- Relative density: Not applicable
- Solubility: Poorly soluble in water.
  - Water: 0.4 g/100ml
- Log Pow: 1.83 (Experimental value)
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosive properties: No data available
- Oxidising properties: No data available
- Explosive limits: Not applicable

9.2. Other information

- Minimum ignition energy: 50 mJ
- VOC content: 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

On burning: release of toxic and corrosive gases/vapours (nitrous vapours, sulphur oxides, carbon monoxide - carbon dioxide).

10.2. Chemical stability

No data available.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

- Acute toxicity (oral): Not classified
- Acute toxicity (dermal): Not classified
- Acute toxicity (inhalation): Not classified

Penicillin Discs (113-98-4)

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<td>Skin corrosion/irritation</td>
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<td>Serious eye damage/irritation</td>
<td>Not classified</td>
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<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
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</table>
Penicillin Discs

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Water pollutant (surface water). Practically non-toxic to fishes (LC50 >100 mg/l). Not harmful to invertebrates (Daphnia) (EC50 > 1000 mg/l). Practically non-toxic to bacteria (EC50 >100 mg/l).
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Penicillin Discs (113-98-4)

LC50 fish 1 > 500 mg/l (LC50; 96 h; Leuciscus idus)
EC50 Daphnia 1 > 1000 mg/l (EC50; 48 h)

12.2. Persistence and degradability
Penicillin Discs (113-98-4)
Persistence and degradability Readily biodegradable in water. Photodegradation in the air.

12.3. Bioaccumulative potential
Penicillin Discs (113-98-4)
Log Pow 1.83 (Experimental value)

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Dissolve or mix with a combustible solvent. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.

Additional information : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code : 07 05 13* - solid wastes containing dangerous substances
16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

14.2. UN proper shipping name
Proper Shipping Name (ADR) : Not regulated

5/11/2017 (Version: 1.1) EN (English)
Penicillin Discs
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Proper Shipping Name (IMDG) : Not regulated
Proper Shipping Name (IATA) : Not regulated
Proper Shipping Name (ADN) : Not regulated
Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not regulated

IMDG
Transport hazard class(es) (IMDG) : Not regulated

IATA
Transport hazard class(es) (IATA) : Not regulated

ADN
Transport hazard class(es) (ADN) : Not regulated

RID
Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not regulated
Packing group (RID) : Not regulated

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Penicillin Discs is not on the REACH Candidate List
Penicillin Discs is not on the REACH Annex XIV List
Penicillin Discs is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

VOC content : 0 %

15.1.2. National regulations
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment
No chemical safety assessment has been carried out
SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Mixture
Product name: Gram Crystal Violet
Product code: G051
Product group: Blend

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

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 – F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

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<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
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<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
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<td></td>
<td>Royal Victoria Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>City Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gwenwyn Ward, Llandough Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Royal Infirmary of Edinburgh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit Medical Toxicology Unit,</td>
<td>Avonley Road SE14 5ER London</td>
<td>+44 20 7188 7188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guy's &amp; St Thomas' Hospital Trust</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre)</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

- Serious eye damage/eye irritation, Category 2: H319
- Carcinogenicity, Category 1B: H350
- Hazardous to the aquatic environment — Chronic Hazard, Category 3: H412
- Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

May cause cancer. Causes serious eye irritation. Harmful to aquatic life with long lasting effects. Harmful to aquatic life.
Gram Crystal Violet
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):
- GHS07
- GHS08

CLP Signal word: Danger

Hazard statements (CLP):
- H319 - Causes serious eye irritation.
- H350 - May cause cancer.
- H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP):
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 - IF exposed or concerned: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>ethanol</td>
<td>(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5</td>
<td>10 - 50</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td>Crystal Violet</td>
<td>(CAS-No.) 548-62-9 (EC-No.) 208-953-6 (EC Index-No.) 612-205-00-8</td>
<td>0.5 - 2</td>
<td>Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general:
- IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation:
- Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact:
- Wash skin with plenty of water.

First-aid measures after eye contact:
- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion:
- Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact:
- Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
5.2. Special hazards arising from the substance or mixture
Fire hazard: Combustible liquid.
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Emergency procedures: Only qualified personnel equipped with suitable protective equipment may intervene. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up
For containment: Collect spillage.
Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hygiene measures: Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool. Store locked up.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
ethanol (64-17-5)
United Kingdom - Occupational Exposure Limits
WEL TWA (mg/m³) 1920 mg/m³
WEL TWA (ppm) 1000 ppm

8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing
Gram Crystal Violet
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>65 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>ethanol (64-17-5)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>10740 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 16000 mg/kg (Rabbit; Literature study)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 20 mg/l (4 h, Rat, Inhalation)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: May cause cancer.

### Ethanol (64-17-5)

| IARC group | 1 - Carcinogenic to humans |

Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general: Harmful to aquatic life with long lasting effects. Harmful to aquatic life.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>EC50 72h algae (1)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
</tr>
<tr>
<td>Log Pow</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
</tr>
<tr>
<td>Ecology - soil</td>
</tr>
</tbody>
</table>

#### 12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystal Violet (548-62-9)</td>
</tr>
<tr>
<td>Ethanol (64-17-5)</td>
</tr>
</tbody>
</table>

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| UN-No. (ADR) | Not applicable |
| UN-No. (IMDG) | Not applicable |
| UN-No. (IATA) | Not applicable |
| UN-No. (ADN) | Not applicable |
| UN-No. (RID) | Not applicable |

14.2. UN proper shipping name

| Proper Shipping Name (ADR) | Not applicable |
| Proper Shipping Name (IMDG) | Not applicable |
| Proper Shipping Name (IATA) | Not applicable |
| Proper Shipping Name (ADN) | Not applicable |
| Proper Shipping Name (RID) | Not applicable |

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

| Packing group (ADR) | Not applicable |
| Packing group (IMDG) | Not applicable |
| Packing group (IATA) | Not applicable |
| Packing group (ADN) | Not applicable |
| Packing group (RID) | Not applicable |

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains a substance on the REACH candidate list in concentration ≥ 0.1% or with a lower specific limit: [4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] (EC 208-953-6, CAS 548-62-9)
Contains no REACH Annex XIV substances
Gram Crystal Violet Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830


15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral), Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>Aquatic Chronic 1</td>
<td>Hazardous to the aquatic environment — Chronic Hazard, Category 1</td>
</tr>
<tr>
<td>Carc. 1B</td>
<td>Carcinogenicity, Category 1B</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
- Product form: Mixture
- Product name: Gram Iodine
- Product code: G061
- Product group: Blend

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1. Relevant identified uses
- Use of the substance/mixture: Research and development

1.2.2. Uses advised against
- No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
- Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

- Not classified

- Adverse physicochemical, human health and environmental effects
  - To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

- Labelling according to Regulation (EC) No. 1272/2008 [CLP]
  - Extra labelling to display
    - Extra classification(s) to display
    - No labelling applicable

2.3. Other hazards

- No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
- Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;=80</td>
<td>Not classified</td>
</tr>
<tr>
<td>Iodine</td>
<td>(CAS-No.) 7553-56-2</td>
<td>0.5 - 2</td>
<td>Acute Tox. 4 (Dermal), H312</td>
</tr>
<tr>
<td></td>
<td>(EC-No.) 231-442-4</td>
<td></td>
<td>Acute Tox. 4 (Inhalation), H332</td>
</tr>
<tr>
<td></td>
<td>(EC Index-No.) 053-001-00-3</td>
<td></td>
<td>Aquatic Acute 1, H400</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact: Wash skin with plenty of water.
- First-aid measures after eye contact: Rinse eyes with water as a precaution.
- First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
- No additional information available
### 4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

### SECTION 5: Firefighting measures

<table>
<thead>
<tr>
<th>5.1. Extinguishing media</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>5.2. Special hazards arising from the substance or mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous decomposition products in case of fire: Toxic fumes may be released.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5.3. Advice for firefighters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.</td>
</tr>
</tbody>
</table>

### SECTION 6: Accidental release measures

<table>
<thead>
<tr>
<th>6.1. Personal precautions, protective equipment and emergency procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1.1. For non-emergency personnel</td>
</tr>
<tr>
<td>Emergency procedures: Ventilate spillage area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.1.2. For emergency responders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: &quot;Exposure controls/personal protection&quot;.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.2. Environmental precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.3. Methods and material for containment and cleaning up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods for cleaning up: Take up liquid spill into absorbent material.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>: Dispose of materials or solid residues at an authorized site.</td>
</tr>
</tbody>
</table>

### SECTION 7: Handling and storage

<table>
<thead>
<tr>
<th>7.1. Precautions for safe handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7.2. Conditions for safe storage, including any incompatibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage conditions: Store in a well-ventilated place. Keep cool.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7.3. Specific end use(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No additional information available</td>
</tr>
</tbody>
</table>

### SECTION 8: Exposure controls/personal protection

<table>
<thead>
<tr>
<th>8.1. Control parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>iodine (7553-56-2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>United Kingdom - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL STEL (mg/m³)</td>
</tr>
<tr>
<td>WEL STEL (ppm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8.2. Exposure controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appropriate engineering controls: Ensure good ventilation of the work station.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hand protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective gloves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eye protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety glasses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin and body protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear suitable protective clothing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In case of insufficient ventilation, wear suitable respiratory equipment</td>
</tr>
</tbody>
</table>
Environmental exposure controls:
Avoid release to the environment.

**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Red to dark red.</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available

**SECTION 10: Stability and reactivity**

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

5/11/2017 (Version: 1.1)
SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Harmful to aquatic life.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

iodine (7553-56-2)

LC50 fish 1: 0.164 mg/l (96 h, Carassius auratus)

12.2. Persistence and degradability
iodine (7553-56-2)

Persistence and degradability: Biodegradability: not applicable.
Chemical oxygen demand (COD): Not applicable
ThOD: Not applicable
BOD (% of ThOD): Not applicable

12.3. Bioaccumulative potential
iodine (7553-56-2)

BCF other aquatic organisms 1: 0.027 (Ophiuroidea, Dry weight)
Log Pow: 2.49 (Experimental value)
Bioaccumulative potential: Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil
No additional information available

12.5. Results of PBT and vPvB assessment
No additional information available

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable
Proper Shipping Name (ADN): Not applicable
Proper Shipping Name (RID): Not applicable

14.3. Transport hazard class(es)
ADR: Not applicable
IMDG: Not applicable
IATA: Not applicable
ADN: Not applicable
RID: Not applicable
14.4. Packing group

<table>
<thead>
<tr>
<th>Packing group (ADR)</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group (IMDG)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (IATA)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (ADN)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.5. Environmental hazards

<table>
<thead>
<tr>
<th>Hazardous for the environment</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Other information</td>
<td>No supplementary information available</td>
</tr>
</tbody>
</table>

14.6. Special precautions for user

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overland transport</td>
<td>No data available</td>
</tr>
<tr>
<td>Transport by sea</td>
<td>No data available</td>
</tr>
<tr>
<td>Air transport</td>
<td>No data available</td>
</tr>
<tr>
<td>Inland waterway transport</td>
<td>No data available</td>
</tr>
<tr>
<td>Rail transport</td>
<td>No data available</td>
</tr>
</tbody>
</table>

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

- Contains no REACH substances with Annex XVII restrictions
- Contains no substance on the REACH candidate list
- Contains no REACH Annex XIV substances

Substance(s) are not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

<table>
<thead>
<tr>
<th>Full text of H- and EUH-statements:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Dermal)</td>
<td>Acute toxicity (dermal), Category 4</td>
</tr>
<tr>
<td>Acute Tox. 4 (Inhalation)</td>
<td>Acute toxicity (inhal.), Category 4</td>
</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment — Acute Hazard, Category 1</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
- Product form: Mixture
- Product name: Gram Safranin
- Product code: G071
- Product group: Blend

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

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number
Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Not classified

Adverse physicochemical, human health and environmental effects
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements
Labelling according to Regulation (EC) No. 1272/2008 [CLP]
No labelling applicable

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>50 - 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>ethanol</td>
<td>(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5</td>
<td>10 - 50</td>
<td>Flam. Liq. 2, H225</td>
</tr>
<tr>
<td>Safranin O</td>
<td>(CAS-No.) 477-73-6 (EC-No.) 207-518-8</td>
<td>0.05 - 0.5</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures
- First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact: Wash skin with plenty of water.
- First-aid measures after eye contact: Rinse eyes with water as a precaution.
- First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.
4.2. Most important symptoms and effects, both acute and delayed
No additional information available

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Fire hazard: Combustible liquid.
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
ethanol (64-17-5)

<table>
<thead>
<tr>
<th>United Kingdom - Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL TWA (mg/m³)</td>
</tr>
<tr>
<td>WEL TWA (ppm)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state:
Liquid

Colour:
No data available

Odour:
No data available

Odour threshold:
No data available

pH:
No data available

Relative evaporation rate (butylacetate=1):
No data available

Melting point:
Not applicable

Freezing point:
No data available

Boiling point:
No data available

Flash point:
65 °C

Auto-ignition temperature:
No data available

Decomposition temperature:
No data available

Flammability (solid, gas):
Not applicable

Vapour pressure:
No data available

Relative vapour density at 20 °C:
No data available

Relative density:
No data available

Solubility:
No data available

Log Pow:
No data available

Viscosity, kinematic:
No data available

Viscosity, dynamic:
No data available

Explosive properties:
No data available

Oxidising properties:
No data available

Explosive limits:
No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity
10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity (oral):
Not classified

Acute toxicity (dermal):
Not classified

Acute toxicity (inhalation):
Not classified

ethanol (64-17-5)

LD50 oral rat:
10740 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)

LD50 dermal rabbit:
> 16000 mg/kg (Rabbit; Literature study)

LC50 inhalation rat (mg/l):
> 20 mg/l (4 h, Rat, Inhalation)

Skin corrosion/irritation:
Not classified
Gram Safranin
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Serious eye damage/irritation: Not classified
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified

<table>
<thead>
<tr>
<th>ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
</tr>
</tbody>
</table>

Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

<table>
<thead>
<tr>
<th>ethanol (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>EC50 72h algae (1)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
Safranin O (477-73-6)
Persistence and degradability: Biodegradability in water: no data available.

<table>
<thead>
<tr>
<th>ethereum (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential
Safranin O (477-73-6)
Bioaccumulative potential: No bioaccumulation data available.

<table>
<thead>
<tr>
<th>ethereum (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
</tr>
<tr>
<td>Log Pow</td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>ethereum (64-17-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
</tr>
<tr>
<td>Ecology - soil</td>
</tr>
</tbody>
</table>
12.5. Results of PBT and vPvB assessment

<table>
<thead>
<tr>
<th>Component</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ethanol (64-17-5)</td>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
</tr>
<tr>
<td></td>
<td>This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods


SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable
Proper Shipping Name (ADN): Not applicable
Proper Shipping Name (RID): Not applicable

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR): Not applicable

IMDG
Transport hazard class(es) (IMDG): Not applicable

IATA
Transport hazard class(es) (IATA): Not applicable

ADN
Transport hazard class(es) (ADN): Not applicable

RID
Transport hazard class(es) (RID): Not applicable

14.4. Packing group

Packaging group (ADR): Not applicable
Packaging group (IMDG): Not applicable
Packaging group (IATA): Not applicable
Packaging group (ADN): Not applicable
Packaging group (RID): Not applicable

14.5. Environmental hazards

Dangerous for the environment: No
Marine pollutant: No
Other information: No supplementary information available

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable
SECTION 14: Transport

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H- and EUH-statements</th>
<th>Full text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Gram Stain: Decolorizer Solution
Product code : G081
Product group : Blend

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

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre) Royal Victoria Hospital</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre) City Hospital</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh Royal Infirmary of Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas’ Poisons Unit Medical Toxicology Unit, Guy’s &amp; St Thomas’ Hospital Trust</td>
<td>Avonley Road SE14 5ER London</td>
<td>+44 20 7188 7188</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

- Flammable liquids, Category 2 [H225]
- Serious eye damage/eye irritation, Category 2 [H319]
- Specific target organ toxicity — Single exposure, Category 3, Narcosis [H336]

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May cause drowsiness or dizziness. Causes serious eye irritation.
2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

- GHS02
- GHS07

CLP Signal word: Danger

Hazard statements (CLP):
- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP):
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground and bond container and receiving equipment.
- P241 - Use explosion-proof equipment.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P271 - Wear protective gloves/protective clothing/eye protection/face protection.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 - Call a POISON CENTRE or doctor if you feel unwell.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P370+P378 - In case of fire: Use media other than water to extinguish.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 - Store in a well-ventilated place. Keep cool.
- P405 - Store locked up.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>iso propyl alcohol</td>
<td>(CAS-No.) 67-64-1</td>
<td>50 - 80</td>
<td>Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336</td>
</tr>
<tr>
<td>acetone</td>
<td>(EC-No.) 200-662-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EC Index-No.) 606-001-00-8</td>
<td>10 - 50</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general: Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact: Rinse skin with water/shower. Take off immediately all contaminated clothing.
- First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects: May cause drowsiness or dizziness.
Symptoms/effects after eye contact: Eye irritation.

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

Treat symptomatically.
### SECTION 5: Firefighting measures

**5.1. Extinguishing media**


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

<table>
<thead>
<tr>
<th>Fire hazard</th>
<th>Hazardous decomposition products in case of fire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly flammable liquid and vapour.</td>
<td>Toxic fumes may be released.</td>
</tr>
</tbody>
</table>

**5.3. Advice for firefighters**

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

### SECTION 6: Accidental release measures

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

**6.1.1. For non-emergency personnel**

Emergency procedures: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

**6.1.2. For emergency responders**

Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

**6.2. Environmental precautions**

Avoid release to the environment.

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

Methods for cleaning up: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information: Dispose of materials or solid residues at an authorized site.

**6.4. Reference to other sections**

For further information refer to section 13.

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Precautions for safe handling: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures: Ground/bond container and receiving equipment.

Storage conditions: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

**7.3. Specific end use(s)**

No additional information available

### SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

<table>
<thead>
<tr>
<th>acetone (67-64-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU - Occupational Exposure Limits</td>
</tr>
<tr>
<td>IOELV TWA (mg/m³)</td>
</tr>
<tr>
<td>IOELV TWA (ppm)</td>
</tr>
<tr>
<td>United Kingdom - Occupational Exposure Limits</td>
</tr>
<tr>
<td>WEL TWA (mg/m³)</td>
</tr>
<tr>
<td>WEL TWA (ppm)</td>
</tr>
<tr>
<td>WEL STEL (mg/m³)</td>
</tr>
<tr>
<td>WEL STEL (ppm)</td>
</tr>
</tbody>
</table>

**8.2. Exposure controls**

Appropriate engineering controls:

Ensure good ventilation of the work station.
Gram Stain: Decolorizer Solution
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

**Hand protection:**
Protective gloves

**Eye protection:**
Safety glasses

**Skin and body protection:**
Wear suitable protective clothing

**Respiratory protection:**
In case of insufficient ventilation, wear suitable respiratory equipment

**Environmental exposure controls:**
Avoid release to the environment.

### SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
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<td>Colour</td>
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</tr>
<tr>
<td>Odour</td>
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<td>Odour threshold</td>
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<td>pH</td>
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</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
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<td>Relative vapour density</td>
<td>No data available</td>
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<tr>
<td>Relative density</td>
<td>No data available</td>
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<td>Solubility</td>
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<td>Log Pow</td>
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<td>Viscosity, kinematic</td>
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<td>Viscosity, dynamic</td>
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<tr>
<td>Explosive properties</td>
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<td>Oxidising properties</td>
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<tr>
<td>Explosive limits</td>
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</table>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
Highly flammable liquid and vapour.

#### 10.2. Chemical stability
Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid
Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials
No additional information available

#### 10.6. Hazardous decomposition products
Hazardous decomposition products.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicity (oral)</th>
<th>Classification</th>
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</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
Gram Stain: Decolorizer Solution

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

acetone (67-64-1)
LD50 oral rat 5800 mg/kg (Equivalent or similar to OECD 401, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit 20000 mg/kg (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal)
LC50 inhalation rat (mg/l) 76 mg/l (Other, 4 h, Rat, Female, Experimental value, Inhalation (vapours))

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: May cause drowsiness or dizziness.
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

acetone (67-64-1)
LC50 fish 1 5540 mg/l (EU Method C.1, 96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 96h algae (1) > 7000 mg/l (Selenastrum capricornutum, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability
acetone (67-64-1)
Biochemical oxygen demand (BOD): 1.43 g O₂/g substance
Chemical oxygen demand (COD): 1.92 g O₂/g substance
ThOD: 2.2 g O₂/g substance
BOD (% of ThOD): 0.872 (20 day(s), Literature study)

12.3. Bioaccumulative potential
acetone (67-64-1)
BCF fish 1 0.69 (Pisces)
BCF other aquatic organisms 1 3 (BCFWIN, Calculated value)
Log Pow -0.24 (Test data)
Bioaccumulative potential: Not bioaccumulative.

12.4. Mobility in soil
acetone (67-64-1)
Surface tension 0.0237 N/m
Ecology - soil: No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment
Component
acetone (67-64-1): This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
No additional information available
Gram Stain: Decolorizer Solution
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Additional information: Flammable vapours may accumulate in the container.

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): Not applicable
UN-No. (IMDG): Not applicable
UN-No. (IATA): Not applicable
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not applicable
Proper Shipping Name (IMDG): Not applicable
Proper Shipping Name (IATA): Not applicable
Proper Shipping Name (ADN): Not applicable
Proper Shipping Name (RID): Not applicable

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR): Not applicable

IMDG
Transport hazard class(es) (IMDG): Not applicable

IATA
Transport hazard class(es) (IATA): Not applicable

ADN
Transport hazard class(es) (ADN): Not applicable

RID
Transport hazard class(es) (RID): Not applicable

14.4. Packing group
Packing group (ADR): Not applicable
Packing group (IMDG): Not applicable
Packing group (IATA): Not applicable
Packing group (ADN): Not applicable
Packing group (RID): Not applicable

14.5. Environmental hazards
Dangerous for the environment: No
Marine pollutant: No
Other information: No supplementary information available

14.6. Special precautions for user
Overland transport
Not applicable
Transport by sea
Not applicable
Air transport
Not applicable
Inland waterway transport
Not applicable
Rail transport
Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable
SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H- and EUH-statements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>Serious eye damage/eye irritation, Category 2</td>
</tr>
<tr>
<td>Flam. Liq. 2</td>
<td>Flammable liquids, Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity — Single exposure, Category 3, Narcosis</td>
</tr>
<tr>
<td>H225</td>
<td>Highly flammable liquid and vapour.</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness.</td>
</tr>
</tbody>
</table>

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. **Product identifier**
- **Product form**: Mixture
- **Product name**: LB Agar
- **Product code**: L001
- **Product group**: Raw material

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

1.2.1. **Relevant identified uses**
No additional information available

1.2.2. **Uses advised against**
No additional information available

1.3. **Details of the supplier of the safety data sheet**
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 – F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. **Emergency telephone number**
- **Emergency number**: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

**SECTION 2: Hazards identification**

2.1. **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No. 1272/2008 [CLP]**
Not classified

**Adverse physicochemical, human health and environmental effects**
To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. **Label elements**
- **Labelling according to Regulation (EC) No. 1272/2008 [CLP]**
No labelling applicable

2.3. **Other hazards**
No additional information available

**SECTION 3: Composition/information on ingredients**

3.1. **Substances**
Not applicable

3.2. **Mixtures**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agar (Bacteriological)</td>
<td>(CAS-No.) 9002-18-0 (EC-No.) 232-658-1</td>
<td>10 - 50</td>
<td>Not classified</td>
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<tr>
<td>Tryptone</td>
<td>(CAS-No.) 91079-40-2 (EC-No.) 293-428-4</td>
<td>10 - 50</td>
<td>Not classified</td>
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<tr>
<td>FAEX EXTRACT</td>
<td>(CAS-No.) 8013-01-2 (EC-No.) 232-387-9</td>
<td>10 - 50</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

- **First-aid measures after inhalation**: Remove person to fresh air and keep comfortable for breathing.
- **First-aid measures after skin contact**: Wash skin with plenty of water.
- **First-aid measures after eye contact**: Rinse eyes with water as a precaution.
- **First-aid measures after ingestion**: Call a poison center or a doctor if you feel unwell.

4.2. **Most important symptoms and effects, both acute and delayed**
No additional information available
4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures:
Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment:
Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up:
Mechanically recover the product.

Other information:
Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling:
Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures:
Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions:
Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available

8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
**LB Agar**

**Safety Data Sheet**

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Powder</td>
</tr>
<tr>
<td>Colour</td>
<td>White-yellow to brown.</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
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<td>Relative evaporation rate (butylacetate=1)</td>
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<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
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<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

**10.1. Reactivity**
The product is non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**
Stable under normal conditions.

**10.3. Possibility of hazardous reactions**
No dangerous reactions known under normal conditions of use.

**10.4. Conditions to avoid**
None under recommended storage and handling conditions (see section 7).

**10.5. Incompatible materials**
No additional information available

**10.6. Hazardous decomposition products**
Hazardous decomposition products.

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

- **Acute toxicity (oral)**: Not classified
- **Acute toxicity (dermal)**: Not classified
- **Acute toxicity (inhalation)**: Not classified

**Agar (Bacteriological) (9002-18-0)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>11000 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Acute aquatic toxicity: Not classified

Chronic aquatic toxicity: Not classified

#### 12.2. Persistence and degradability

**Agar (Bacteriological) (9002-18-0)**

Persistence and degradability: Biodegradability in water: no data available.

**Tryptone (91079-40-2)**

Persistence and degradability: Readily biodegradable in water.

**FAEX EXTRACT (8013-01-2)**

Persistence and degradability: Readily biodegradable in water.

#### 12.3. Bioaccumulative potential

**Agar (Bacteriological) (9002-18-0)**

Bioaccumulative potential: No bioaccumulation data available.

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods


### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

<table>
<thead>
<tr>
<th>UN-No. (ADR)</th>
<th>Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No. (IMDG)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>UN-No. (IATA)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>UN-No. (ADN)</td>
<td>Not regulated</td>
</tr>
<tr>
<td>UN-No. (RID)</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

#### 14.2. UN proper shipping name

| Proper Shipping Name (ADR) | Not regulated |
| Proper Shipping Name (IMDG) | Not regulated |
| Proper Shipping Name (IATA) | Not regulated |
| Proper Shipping Name (ADN)  | Not regulated |
| Proper Shipping Name (RID)  | Not regulated |

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

<table>
<thead>
<tr>
<th>ADR</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IMDG</td>
<td>Not regulated</td>
</tr>
<tr>
<td>IATA</td>
<td>Not regulated</td>
</tr>
<tr>
<td>ADN</td>
<td>Not regulated</td>
</tr>
<tr>
<td>RID</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>
14.4. Packing group

- Packing group (ADR): Not regulated
- Packing group (IMDG): Not regulated
- Packing group (IATA): Not regulated
- Packing group (ADN): Not regulated
- Packing group (RID): Not regulated

14.5. Environmental hazards

- Dangerous for the environment: No
- Marine pollutant: No
- Other information: No supplementary information available

14.6. Special precautions for user

- Overland transport: Not regulated
- Transport by sea: Not regulated
- Air transport: Not regulated
- Inland waterway transport: Not regulated
- Rail transport: Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

- Contains no REACH substances with Annex XVII restrictions
- Contains no substance on the REACH candidate list
- Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

- Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>LB Broth (Premade)</td>
</tr>
<tr>
<td>Product code</td>
<td>L021</td>
</tr>
<tr>
<td>Product group</td>
<td>Blend</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>(EC-No.) 231-598-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tryptone</td>
<td>(CAS-No.) 91079-40-2</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>(EC-No.) 293-428-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FAEX EXTRACT</td>
<td>(CAS-No.) 8013-01-2</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>(EC-No.) 232-387-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.
4.2. Most important symptoms and effects, both acute and delayed
No additional information available
4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

**SECTION 5: Firefighting measures**

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters
Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

**SECTION 7: Handling and storage**

7.1. Precautions for safe handling
Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)
No additional information available

**SECTION 8: Exposure controls/personal protection**

8.1. Control parameters
No additional information available
8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

<table>
<thead>
<tr>
<th>Hand protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective gloves</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eye protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety glasses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin and body protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear suitable protective clothing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>In case of insufficient ventilation, wear suitable respiratory equipment</td>
</tr>
</tbody>
</table>

Environmental exposure controls:
Avoid release to the environment.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

sodium chloride (7647-14-5)

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 3980 mg/kg bodyweight (Rat, Experimental value, 20% aqueous solution, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 10000 mg/kg (Rabbit, Experimental value, Dermal)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 42 mg/l air (1 h, Rat, Male, Experimental value, 20% aqueous solution, Inhalation (aerosol))</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation      | Not classified                      |
Serious eye damage/irritation  | Not classified                      |
Respiratory or skin sensitisation | Not classified                     |
Germ cell mutagenicity         | Not classified                      |
Carcinogenicity                | Not classified                      |
Reproductive toxicity          | Not classified                      |
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

SECTION 12: Ecological information
12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

sodium chloride (7647-14-5)
LC50 fish 1: 5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)

12.2. Persistence and degradability
Tryptone (91079-40-2)
Persistence and degradability: Readily biodegradable in water.

FAEX EXTRACT (8013-01-2)
Persistence and degradability: Readily biodegradable in water.

sodium chloride (7647-14-5)
Persistence and degradability: Biodegradability: not applicable.
Chemical oxygen demand (COD): Not applicable
ThOD: Not applicable
BOD (% of ThOD): Not applicable

12.3. Bioaccumulative potential
sodium chloride (7647-14-5)
Log Pow: -3 (Calculated)
Bioaccumulative potential: Not bioaccumulative.

12.4. Mobility in soil
sodium chloride (7647-14-5)
Surface tension: 73.03 mN/m (23 °C, 14.5 gl/l)
Ecology - soil: No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment
Component
sodium chloride (7647-14-5): This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects
No additional information available

SECTION 13: Disposal considerations
13.1. Waste treatment methods

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number
UN-No. (ADR): Not applicable
UN-No. (IMDG): Not regulated
UN-No. (IATA): Not regulated
UN-No. (ADN): Not applicable
UN-No. (RID): Not applicable

14.2. UN proper shipping name
Proper Shipping Name (ADR): Not applicable
14.3. Transport hazard class(es)

**ADR**
Transport hazard class(es) (ADR) : Not applicable

**IMDG**
Transport hazard class(es) (IMDG) : Not regulated

**IATA**
Transport hazard class(es) (IATA) : Not regulated

**ADN**
Transport hazard class(es) (ADN) : Not applicable

**RID**
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not regulated
Packing group (IATA) : Not regulated
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport
No data available

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
No data available

Rail transport
No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
Contains no REACH substances with Annex XVII restrictions
Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out
SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
- Product form: Substance
- Substance name: Loop Wash
- Product code: L041
- Product group: Raw material

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

1.2.1. Relevant identified uses
No additional information available

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Belfast Centre)</td>
<td>Grosvenor Road BT12 6BA Belfast</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Cardiff Centre)</td>
<td>Penarth CF64 2XX Cardiff</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service Edinburgh</td>
<td>Little France Crescent EH16 4SA Edinburgh</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Guy's &amp; St Thomas' Poisons Unit Medical Toxicology Unit, Guy's &amp; St Thomas' Hospital Trust</td>
<td>Avonley Road SE14 5ER London</td>
<td>+44 20 7188 7188</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit</td>
<td>Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle</td>
<td>0344 892 0111</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

- Serious eye damage/eye irritation, Category 2 H319
- Specific target organ toxicity — Single exposure, Category 3, Narcosis H336

Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects
May cause drowsiness or dizziness. Causes serious eye irritation.
2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

| GHS07 |

CLP Signal word: Warning

Hazard statements (CLP):

H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.

Precautionary statements (CLP):

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-propanol</td>
<td>(CAS-No.) 67-63-0 (EC-No.) 200-661-7 (EC Index-No.) 603-117-00-0</td>
<td>100</td>
<td>Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336</td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact: Wash skin with plenty of water.
First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects: May cause drowsiness or dizziness.
Symptoms/effects after eye contact: Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Emergency procedures: Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders
Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: Take up liquid spill into absorbent material.
Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
United Kingdom - Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Substance</th>
<th>Unit</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-propanol</td>
<td>mg/m³</td>
<td>999</td>
</tr>
<tr>
<td>WEL TWA</td>
<td>ppm</td>
<td>400</td>
</tr>
<tr>
<td>WEL STEL</td>
<td>mg/m³</td>
<td>1250</td>
</tr>
<tr>
<td>WEL STEL</td>
<td>ppm</td>
<td>500</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls:
Ensure good ventilation of the work station.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Colour: No data available

5/11/2017
Odour: No data available
Odour threshold: No data available
pH: No data available
Relative evaporation rate (butylacetate=1): No data available
Melting point: Not applicable
Freezing point: No data available
Boiling point: No data available
Flash point: 12 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): Not applicable
Vapour pressure: No data available
Relative vapour density at 20 °C: No data available
Relative density: No data available
Solubility: No data available
Log Pow: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive limits: No data available

9.2. Other information
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity
The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Not classified
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Not classified

2-propanol (67-63-0)

LD50 oral rat: 5840 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit: 16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (ppm): > 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: May cause drowsiness or dizziness.
STOT-repeated exposure: Not classified
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Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Ecology - general** : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

**Acute aquatic toxicity** : Not classified

**Chronic aquatic toxicity** : Not classified

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Toxicity Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>9640 - 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradable in the soil.</td>
<td>Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>1.19 g O₂/g substance</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>2.23 g O₂/g substance</td>
</tr>
<tr>
<td>ThOD</td>
<td>2.4 g O₂/g substance</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>0.05 (Weight of evidence approach, 25 °C)</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Mobility of water</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>0.021 N/m (25 °C)</td>
</tr>
<tr>
<td>Log Koc</td>
<td>0.185 - 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)</td>
</tr>
<tr>
<td>Ecology - soil</td>
<td>Highly mobile in soil.</td>
</tr>
</tbody>
</table>

#### 12.5. Results of PBT and vPvB assessment

**Component**

**2-propanol (67-63-0)**

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII</td>
<td></td>
</tr>
</tbody>
</table>

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods


### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

<table>
<thead>
<tr>
<th>UN-No. (ADR)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN-No. (IMDG)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN-No. (IATA)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN-No. (ADN)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UN-No. (RID)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

#### 14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Proper Shipping Name (ADR)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

| Proper Shipping Name (IMDG) | Value          |
|                            | Not applicable |

| Proper Shipping Name (IATA) | Value          |
|                            | Not applicable |

| Proper Shipping Name (ADN)  | Value          |
|                            | Not applicable |

| Proper Shipping Name (RID)  | Value          |
|                            | Not applicable |

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

**ADR**

<table>
<thead>
<tr>
<th>Transport hazard class(es) (ADR)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Loop Wash
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IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group
Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Loop Wash is not on the REACH Candidate List
Loop Wash is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Eye Irrit. 2 Serious eye damage/eye irritation, Category 2
Flam. Liq. 2 Flammable liquids, Category 2
STOT SE 3 Specific target organ toxicity — Single exposure, Category 3, Narcosis
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
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| H336                  | May cause drowsiness or dizziness. |

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. **Product identifier**

<table>
<thead>
<tr>
<th>Product form</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Phosphate Buffered Saline (PBS), [1X]</td>
</tr>
<tr>
<td>Product code</td>
<td>412A_P161_119P</td>
</tr>
<tr>
<td>Product group</td>
<td>Blend</td>
</tr>
</tbody>
</table>

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
63132-1429 Saint Louis - United States
T 800-628-7730 - F 314-991-1504
technical@GBiosciences.com - www.GBiosciences.com

1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

Classification according to Regulation (EU) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EU) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

**SECTION 3: Composition/information on ingredients**

3.1. **Substances**

Not applicable

3.2. **Mixtures**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium chloride</td>
<td>(CAS-No.) 7647-14-5</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sodium Phosphate (Dibasic)</td>
<td>(CAS-No.) 7558-79-4</td>
<td>0.05 - 0.5</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potassium Phosphate (Monobasic)</td>
<td>(CAS-No.) 7778-77-0</td>
<td>&lt; 0.05</td>
<td>Not classified</td>
</tr>
<tr>
<td>potassium chloride</td>
<td>(CAS-No.) 7447-40-7</td>
<td>&lt; 0.05</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**SECTION 4: First aid measures**

4.1. Description of first aid measures

First-aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact: Wash skin with plenty of water.
### Phosphate Buffered Saline (PBS), [1X]

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<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1. First-aid measures after eye contact</td>
<td>Rinse eyes with water as a precaution.</td>
</tr>
<tr>
<td>4.2. First-aid measures after ingestion</td>
<td>Call a poison center or a doctor if you feel unwell.</td>
</tr>
<tr>
<td>4.3. Most important symptoms and effects, both acute and delayed</td>
<td>No additional information available</td>
</tr>
<tr>
<td>4.4. Indication of any immediate medical attention and special treatment needed</td>
<td>Treat symptomatically.</td>
</tr>
</tbody>
</table>

**SECTION 5: Firefighting measures**

| 5.2. Special hazards arising from the substance or mixture | Hazardous decomposition products in case of fire: Toxic fumes may be released. |
| 5.3. Advice for firefighters | Protection during firefighting: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

**SECTION 6: Accidental release measures**

| 6.1. Personal precautions, protective equipment and emergency procedures |  |
| 6.1.1. For non-emergency personnel | Emergency procedures: Ventilate spillage area. |
| 6.1.2. For emergency responders | Protective equipment: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| 6.2. Environmental precautions | Avoid release to the environment. |
| 6.3. Methods and material for containment and cleaning up | Methods for cleaning up: Take up liquid spill into absorbent material. |
| Other information | Dispose of materials or solid residues at an authorized site. |
| 6.4. Reference to other sections | For further information refer to section 13. |

**SECTION 7: Handling and storage**

| 7.1. Precautions for safe handling | Precautions for safe handling: Ensure good ventilation of the work station. Wear personal protective equipment. |
| Hygiene measures | Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |
| 7.2. Conditions for safe storage, including any incompatibilities | Storage conditions: Store in a well-ventilated place. Keep cool. |
| 7.3. Specific end use(s) | No additional information available |

**SECTION 8: Exposure controls/personal protection**

| 8.1. Control parameters | No additional information available |
| 8.2. Exposure controls | Appropriate engineering controls: Ensure good ventilation of the work station. |

**Hand protection:**
- Protective gloves

**Eye protection:**
- Safety glasses

**Skin and body protection:**
- Wear suitable protective clothing

**Respiratory protection:**
- In case of insufficient ventilation, wear suitable respiratory equipment

**Environmental exposure controls:**
- Avoid release to the environment.
## SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Compound</th>
<th>Acute toxicity (oral)</th>
<th>Acute toxicity (dermal)</th>
<th>Acute toxicity (inhalation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>Not classified</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 3980 mg/kg bodyweight (Rat, Experimental value, 20% aqueous solution, Oral)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 10000 mg/kg (Rabbit, Experimental value, Dermal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 42 mg/l air (1 h, Rat, Male, Experimental value, 20% aqueous solution, Inhalation (aerosol))</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sodium Phosphate (Dibasic) (7558-79-4)

<table>
<thead>
<tr>
<th>Rat tissue</th>
<th>LD50 Oral Dose (mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>17000 mg/kg (Exp. value)</td>
</tr>
<tr>
<td>Dermal</td>
<td>&gt; 7940 mg/kg (Exp. value)</td>
</tr>
</tbody>
</table>
### Potassium Phosphate (Monobasic) (7778-77-0)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>7100 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 4640 mg/kg (Rabbit, Dermal)</td>
</tr>
</tbody>
</table>

### Potassium Chloride (7447-40-7)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>3020 mg/kg bodyweight (Rat, Female, Experimental value, Oral)</td>
</tr>
</tbody>
</table>

### Sodium Chloride (7647-14-5)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>5840 mg/l (ASTM, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)</td>
</tr>
</tbody>
</table>

### Sodium Phosphate (Dibasic) (7558-79-4)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 2400 mg/l (OECD 203: Fish, Acute Toxicity Test, 48 h, Leuciscus idus)</td>
</tr>
</tbody>
</table>

### Potassium Phosphate (Monobasic) (7778-77-0)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 900 mg/l (48 h, Leuciscus idus)</td>
</tr>
</tbody>
</table>

### Potassium Chloride (7447-40-7)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>2010 mg/l (96 h, Lepomis macrochirus, Static system)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>880 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>660 mg/l (EPA 600/4-90/027, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td>EC50 72h algae (1)</td>
<td>2500 mg/l (Scenedesmus subspicatus, Biomass)</td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>&gt; 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)</td>
</tr>
</tbody>
</table>

### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### Sodium Phosphate (Dibasic) (7558-79-4)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Biodegradability: not applicable.</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Phosphate Buffered Saline (PBS), [1X]
Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

<table>
<thead>
<tr>
<th>Chemical oxygen demand (COD)</th>
<th>Not applicable</th>
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</thead>
<tbody>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Potassium Phosphate (Monobasic) (7778-77-0)**

- **Persistence and degradability**: Biodegradability: not applicable.
- **Biochemical oxygen demand (BOD)**: Not applicable
- **Chemical oxygen demand (COD)**: Not applicable
- **ThOD**: Not applicable
- **BOD (% of ThOD)**: Not applicable

**Potassium chloride (7447-40-7)**

- **Persistence and degradability**: Biodegradability: not applicable.
- **Chemical oxygen demand (COD)**: Not applicable (inorganic)
- **ThOD**: Not applicable (inorganic)

12.3. Bioaccumulative potential

**sodium chloride (7647-14-5)**

- **Log Pow**: -3 (Calculated)
- **Bioaccumulative potential**: Not bioaccumulative.

**Sodium Phosphate (Dibasic) (7558-79-4)**

- **Bioaccumulative potential**: Not bioaccumulative.

**Potassium Phosphate (Monobasic) (7778-77-0)**

- **Bioaccumulative potential**: No bioaccumulation data available.

**potassium chloride (7447-40-7)**

- **Log Pow**: -0.46 (Estimated value)
- **Bioaccumulative potential**: Not bioaccumulative.

12.4. Mobility in soil

**sodium chloride (7647-14-5)**

- **Surface tension**: 73.03 mN/m (23 °C, 14.5 g/l)
- **Ecology - soil**: No (test)data on mobility of the substance available.

**Potassium Phosphate (Monobasic) (7778-77-0)**

- **Ecology - soil**: No (test)data on mobility of the substance available.

12.5. Results of PBT and vPvB assessment

**Component**

- **sodium chloride (7647-14-5)**: This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
- **This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII**

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods


SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN
**Phosphate Buffered Saline (PBS), [1X]**

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 14.1. UN number

<table>
<thead>
<tr>
<th>UN-No. (ADR)</th>
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<tr>
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<tr>
<td>UN-No. (IATA)</td>
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</tr>
<tr>
<td>UN-No. (ADN)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>UN-No. (RID)</td>
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</tr>
</tbody>
</table>

### 14.2. UN proper shipping name

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name (IMDG)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Proper Shipping Name (IATA)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Proper Shipping Name (ADN)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Proper Shipping Name (RID)</td>
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</table>

### 14.3. Transport hazard class(es)

<table>
<thead>
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<th>ADR</th>
<th>Transport hazard class(es) (ADR)</th>
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<tbody>
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<td>Transport hazard class(es) (IMDG)</td>
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<tr>
<td>IATA</td>
<td>Transport hazard class(es) (IATA)</td>
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<td>ADN</td>
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</tr>
<tr>
<td>RID</td>
<td>Transport hazard class(es) (RID)</td>
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</tr>
</tbody>
</table>

### 14.4. Packing group

<table>
<thead>
<tr>
<th>Packing group (ADR)</th>
<th>: Not regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group (IMDG)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Packing group (IATA)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Packing group (ADN)</td>
<td>: Not regulated</td>
</tr>
<tr>
<td>Packing group (RID)</td>
<td>: Not regulated</td>
</tr>
</tbody>
</table>

### 14.5. Environmental hazards

| Dangerous for the environment | : No |
| Marine pollutant | : No |
| Other information | : No supplementary information available |

### 14.6. Special precautions for user

**Overland transport**

Not regulated

**Transport by sea**

Not regulated

**Air transport**

Not regulated

**Inland waterway transport**

Not regulated

**Rail transport**

Not regulated

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

**SECTION 15: Regulatory information**

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

**15.1.1. EU-Regulations**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances


15.1.2. National regulations
No additional information available

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Safety Data Sheet applicable for regions: GB - United Kingdom

SDS EU (REACH Annex II)
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.