Safety Data Sheet

Cat. # 786-210

CytoScan™ LDH Cytotoxicity Assay

Size: 1000 Assays
**SECTION 1: Identification**

1.1. Identification

Product form: Substance
Substance name: LDH Positive Control
CAS-No.: 9001-60-9
Product code: 007L
Synonyms: L-Lactic Dehydrogenase, from bovine heart
BIG No: 37684

1.2. Recommended use and restrictions on use

Use of the substance/mixture: No data available

1.3. Supplier

Geno Technology, Inc./G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - United States
T 800-628-7720 - 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: Hazard(s) identification**

2.1. Classification of the substance or mixture

GHS US classification
Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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

3.1. Substances

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDH Positive Control</td>
<td>L-Lactic Dehydrogenase, from bovine heart</td>
<td>(CAS-No.) 9001-60-9</td>
<td>100</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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: If you feel unwell, seek medical advice.
First aid measures after inhalation: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First aid measures after skin contact: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
First aid measures after eye contact: Rinse with water. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
First aid measures after ingestion: Rinse mouth with water. Consult a doctor/medical service if you feel unwell. Call Poison Information Centre (www.big.be/antigif.htm). Call a poison center/doctor/physician if you feel unwell.
4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms:
- Slightly harmful if swallowed. Slightly harmful in contact with skin. Slightly harmful by inhalation.
- Unlikely to cause harmful effects.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media:
- Water spray.
- Polyvalent foam.
- ABC powder.
- Carbon dioxide.
- Water spray.
- Dry powder.
- Foam.
- Carbon dioxide.

Unsuitable extinguishing media:
- No unsuitable extinguishing media known.

5.2. Specific hazards arising from the chemical
Fire hazard:
- DIRECT FIRE HAZARD: No data available on direct fire hazard.
- INDIRECT FIRE HAZARD: No data available on indirect fire hazard.

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

5.3. Special protective equipment and precautions for fire-fighters
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.

Protection during firefighting:
- Heat/fire exposure: compressed air/oxygen apparatus.
- 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
Protective equipment:

Emergency procedures:
- Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

Measures in case of dust release:

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
For containment:
- Contain released product, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up:
- Take up liquid spill into absorbent material. Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. See "Material-handling" for suitable container materials. 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


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.

Storage temperature: 4 °C

Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. moisture.

Storage area: Store in a dry area. Provide for a cooling system. May be stored under nitrogen. May be stored under argon. Meet the legal requirements.

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

Packaging materials: SUITABLE MATERIAL: cardboard. glass. plastics.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

LDH Positive Control (9001-60-9):
No additional information available

8.2. Appropriate engineering controls

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

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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:
Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection:
Protective clothing

Respiratory protection:
Dust formation: dust mask

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Color: White
Odor: No data available
Odor threshold: No data available
pH: No data available
Melting point: Not applicable
Freezing point: No data available
Boiling point: Not applicable
Flash point: No data available
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Not applicable.
Vapor pressure: No data available
Relative vapor density at 20 °C: Not applicable
Relative density: No data available
Specific gravity / density: 1250 kg/m³
Solubility: No data available
Log Pow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information
Other properties: Hygroscopic.

SECTION 10: Stability and reactivity

10.1. Reactivity
On burning: release of toxic and corrosive gases/vapours (phosphorus oxides, nitrous vapours).

10.2. Chemical stability
Stable under normal conditions. Hygroscopic.

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 sensitization: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
Specific target organ toxicity – single exposure: Not classified
Specific target organ toxicity – repeated exposure: Not classified
Aspiration hazard: Not classified
Viscosity, kinematic: No data available
Potential Adverse human health effects and symptoms: Slightly harmful if swallowed. Slightly harmful in contact with skin. Slightly harmful by inhalation.
Symptoms/effects: Unlikely to cause harmful effects.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms or 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: No water pollutant (surface water). No data available on ecotoxicity.

12.2. Persistence and degradability
LDH Positive Control (9001-60-9)
Persistence and degradability: Biodegradability in water: no data available.

12.3. Bioaccumulative potential
LDH Positive Control (9001-60-9)
Bioaccumulative potential: No bioaccumulation data available.

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods
Product/Packaging disposal recommendations: Recycle/reuse. Dissolve or mix with a combustible solvent. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Other information: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Air transport

SECTION 15: Regulatory information

15.1. US Federal regulations
LDH Positive Control (9001-60-9)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

SDS US (GHS HazCom 2012)

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

1.1. Identification
Product form: Mixture
Product name: CytoScan LDH Assay Buffer
Product code: 298C

1.2. Recommended use and restrictions on use
No additional information available

1.3. Supplier
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - 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: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
Flammable liquids Category 4  H227 Combustible liquid
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS US labeling
Signal word (GHS US): Warning
Hazard statements (GHS US): H227 - Combustible liquid
Precautionary statements (GHS US):
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
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 which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

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/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)
No additional information available
4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard : Combustible liquid.

5.3. Special protective equipment and precautions for fire-fighters
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.

Storage temperature : -20 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Appropriate engineering controls
Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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

### 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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</thead>
<tbody>
<tr>
<td>Physical state</td>
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<td>No data available</td>
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<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
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<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>
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<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
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<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
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<td>Vapor pressure</td>
<td>No data available</td>
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<td>Relative vapor density at 20 °C</td>
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<td>Relative density</td>
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<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Explosion limits</td>
<td>No data available</td>
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<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</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>
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<td>Acute toxicity (oral)</td>
<td>Not classified</td>
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<tr>
<td>Acute toxicity (dermal)</td>
<td>Not classified</td>
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</table>
CytoScan LDH Assay Buffer
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<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 sensitization</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>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

12.1. **Toxicity**
Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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. **Other adverse effects**
No additional information available

**SECTION 13: Disposal considerations**

13.1. **Disposal methods**

**SECTION 14: Transport information**

**Department of Transportation (DOT)**
In accordance with DOT

Other information: No supplementary information available.

**Transportation of Dangerous Goods**

**Transport by sea**
Not regulated

**Air transport**
Not regulated

**SECTION 15: Regulatory information**

15.1. **US Federal regulations**
No additional information available
15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/11/2017

Full text of H-phrases:

| H227 | Combustible liquid |

SDS US (GHS HazCom 2012)

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

1.1. Identification
Product form: Mixture
Product name: CytoScan LDH Lysis Buffer
Product code: 304C

1.2. Recommended use and restrictions on use
No additional information available

1.3. Supplier
Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - 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: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS US classification
Not classified

2.2. GHS Label elements, including precautionary statements
GHS US labeling
No labeling applicable

2.3. Other hazards which do not result in classification
No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>polyethylene glycol para-(1,1,3,3-tetramethylbutyl)phenyl ether</td>
<td>2-[4-(2,4,4-trimethylpentan-2-yl)phenoxy]ethanol / 4(1,1,3,3-tetramethylbutyl)phenyl polyethylene glycol / poly(oxy-1,2-ethanediyl), alpha-(4-(1,1,3,3-tetramethylbutyl)phenyl)-omega-hydroxy- / polyethylene glycol tert-octylphenyl ether / tert-octylphenoxypolyethoxyethanol / TRITON X-100</td>
<td>(CAS-No.) 9002-93-1</td>
<td>5 - 10</td>
<td>Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Acute 2, H401 Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)
No additional information available
4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

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.

Storage temperature: 4 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

CytoScan LDH Lysis Buffer

No additional information available

polyethylene glycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)

No additional information available

8.2. Appropriate engineering controls

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

Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:
CytoScan LDH Lysis Buffer
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Safety glasses

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

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

### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>9.1. Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state: Liquid</td>
<td></td>
</tr>
<tr>
<td>Color: No data available</td>
<td></td>
</tr>
<tr>
<td>Odor: No data available</td>
<td></td>
</tr>
<tr>
<td>Odor threshold: No data available</td>
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</tr>
<tr>
<td>pH: No data available</td>
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<td>Melting point: Not applicable</td>
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<td>Freezing point: No data available</td>
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<tr>
<td>Boiling point: No data available</td>
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<tr>
<td>Flash point: No data available</td>
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</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1): No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas): Not applicable.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure: No data available</td>
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</tr>
<tr>
<td>Relative vapor density at 20 °C: No data available</td>
<td></td>
</tr>
<tr>
<td>Relative density: No data available</td>
<td></td>
</tr>
<tr>
<td>Solubility: No data available</td>
<td></td>
</tr>
<tr>
<td>Log Pow: No data available</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature: No data available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature: No data available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic: No data available</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic: No data available</td>
<td></td>
</tr>
<tr>
<td>Explosion limits: No data available</td>
<td></td>
</tr>
<tr>
<td>Explosive properties: No data available</td>
<td></td>
</tr>
<tr>
<td>Oxidizing properties: No data available</td>
<td></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

**polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1800 mg/kg (Rat, Literature study, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>8000 mg/kg (Rabbit, Literature study, Dermal)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>1800 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>8000 mg/kg body weight</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>8.9 mg/l (96 h, Pimephales promelas, Literature study)</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>26 mg/l (48 h, Daphnia magna, Literature study)</td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

**polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)**

Persistence and degradability : Not readily biodegradable in water.
Chemical oxygen demand (COD) : 2.19 mg/g
ThOD : 2.16 g O₂/g substance

**12.3. Bioaccumulative potential**

**polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)**

Log Pow : 4.86 (Estimated value)
Bioaccumulative potential : Potential for bioaccumulation (4 ≥ Log Kow ≤ 5).

**12.4. Mobility in soil**

**polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)**

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

**12.5. Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Other information : No supplementary information available.

Transportation of Dangerous Goods

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

polyethyleneglycol para-(1,1,3,3-tetramethylbutyl)phenyl ether (9002-93-1)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711). |

15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 09/20/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H302</th>
<th>Harmful if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H401</td>
<td>Toxic to aquatic life</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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

### 1.1. Identification

- **Product form**: Mixture
- **Product name**: CytoScan LDH Stop Solution
- **Product code**: 310C-B

### 1.2. Recommended use and restrictions on use

No additional information available.

### 1.3. Supplier

Geno Technology, Inc. / G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - 1429 - 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: Hazard(s) identification

### 2.1. Classification of the substance or mixture

GHS US classification
Not classified

### 2.2. GHS Label elements, including precautionary statements

GHS US labelling
No labeling applicable

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deionized water</td>
<td>acetic acid, aminooxo- / aminooxocetic acid / oxalic acid monoamide / oxamic-acid / oxamidic acid</td>
<td>(CAS-No.) 7732-18-5</td>
<td>&gt;= 80</td>
<td>Not classified</td>
</tr>
<tr>
<td>oxamic acid</td>
<td></td>
<td>(CAS-No.) 471-47-6</td>
<td>0.5 - 2</td>
<td>Skin Irrit. 2, H315, Eye Irrit. 2, H319, STOT SE 3, H335</td>
</tr>
<tr>
<td>Name</td>
<td>Common Name (Synonyms)</td>
<td>Product identifier</td>
<td>%</td>
<td>GHS US classification</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Sodium phosphate monobasic</td>
<td>acid sodium phosphate / acid sodium phosphate, anhydrous / E339(a) food grade / monobasic sodium phosphate / monosodium dihydrogen orthophosphate / monosodium dihydrogen phosphate / monosodium dihydrogen phosphate, anhydrous / monosodium hydrogen phosphate / monosodium orthophosphate / monosodium orthophosphate, anhydrous / monosodium phosphate / monosodium phosphate, anhydrous / monosorb XP-4 / MSP / MSP, anhydrous / phosphoric acid monosodium salt, anhydrous / phosphoric acid, monosodium salt / primary-sodium phosphate / primary-sodiumphosphate, anhydrous / sodium acid phosphate, anhydrous / sodium acid phosphate, anhydrous / sodium biphosphat / sodium biphosphate, anhydrous / sodium dihydrogen monophosphate / sodium dihydrogen phosphate / sodium dihydrogen phosphate (NaH2PO4) / sodium dihydrogen phosphate, anhydrous / sodium dihydrogenorthophosphate / sodium monobasic phosphate (NaH2PO4) / sodium orthophosphate, primary / sodium phosphate (Na(H2PO4)) / sodium phosphate, monobasic / sodium phosphate, monobasic, anhydrous / sodium primary phosphate</td>
<td>(CAS-No.) 7558-80-7</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
<tr>
<td>sodium chloride</td>
<td>AKZO, BROXO 6/15 / AXAL / BRINE / BROXO 6/15 / common salt / dendrit / evaporated / extra fine 200 salt / extra fine 325 salt / halite / HG blending / iron-fighter salt / purex / purified brine / road salt / rock salt / saline / salt / sea salt / sodium chloride / sodium chloride (NaCl) / solar salt / solsel / sterling (=sodium chloride) / table salt / top flake / USP sodiumchloride / vacuum salt, electrolysis quality / white crystal</td>
<td>(CAS-No.) 7647-14-5</td>
<td>0.5 - 2</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

Full text of hazard classes and 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/doctor/physician if you feel unwell.

4.2. **Most important symptoms and effects (acute and delayed)**

No additional information available

4.3. **Immediate medical attention and special treatment, if necessary**

Treat symptomatically.

**SECTION 5: Fire-fighting measures**

5.1. **Suitable (and unsuitable) extinguishing media**


5.2. **Specific hazards arising from the chemical**

No additional information available
5.3. Special protective equipment and precautions for fire-fighters
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.
Storage temperature: 4 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Information Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>CytoScan LDH Stop Solution</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Deionized water (7732-18-5)</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Sodium chloride (7647-14-5)</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Sodium phosphate monobasic (7558-80-7)</td>
<td>No additional information available</td>
</tr>
<tr>
<td>Oxamic acid (471-47-6)</td>
<td>No additional information available</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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

## 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>Color</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</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>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor 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>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</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>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</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>Toxicity Type</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>
### CytoScan LDH Stop Solution

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>sodium chloride (7647-14-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium phosphate monobasic (7558-80-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

<table>
<thead>
<tr>
<th>oxamic acid (471-47-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity – single exposure</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
</tr>
</tbody>
</table>

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

### SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>12.1. Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology - general</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sodium chloride (7647-14-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium phosphate monobasic (7558-80-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.2. Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
</tr>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sodium phosphate monobasic (7558-80-7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>oxamic acid (471-47-6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12.3. Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
</tr>
<tr>
<td>Log Pow</td>
</tr>
</tbody>
</table>
CytoScan LDH Stop Solution
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>Sodium phosphate monobasic (7558-80-7)</td>
<td>Log Pow -3.96 (Estimated value)</td>
</tr>
<tr>
<td></td>
<td>Bioaccumulative potential</td>
</tr>
<tr>
<td>oxamic acid (471-47-6)</td>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Surface tension</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium chloride (7647-14-5)</td>
<td>73.03 mN/m (23 °C, 14.5 g/l)</td>
<td>No (test)data on mobility of the substance available.</td>
</tr>
</tbody>
</table>

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods


SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Other information: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Deionized water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

sodium chloride (7647-14-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sodium phosphate monobasic (7558-80-7)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

oxamic acid (471-47-6)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Deionized water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)
CytoScan LDH Stop Solution
Safety Data Sheet

sodium chloride (7647-14-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

Revision date: 05/11/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H315</th>
<th>Causes skin irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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

### 1.1. Identification

- **Product form:** Mixture
- **Product name:** CytoScan Substrate Mix
- **Product code:** 328C

### 1.2. Recommended use and restrictions on use

No additional information available

### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132 - United States
T 800-628-7730 - F 314-991-1504
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

### 1.4. Emergency telephone number

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

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

GHS US classification
Not classified

### 2.2. GHS Label elements, including precautionary statements

GHS US labeling
No labeling applicable

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
</table>
| 2-amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride | 1,3-propanediol, 2-amino-2-\{(hydroxymethyl)\}-, hydrochloride / 2-amino-2-\{(hydroxymethyl)\}propane-1,3-diol hydrochloride / alpha,alpha,alpha-tris(hydroxymethyl)methylamin, hydrochloride / tris HCl / tris hydrochloride / tris(hydroxymethyl)amonimethane, hydrochloride / tromethamine, hydrochloride / tromethane, hydrochloride | (CAS-No.) 1185-53-1 | < 2.5 | Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
STOT SE 3, H335 |
Full text of hazard classes and 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/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

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.
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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.
Storage temperature:
-20 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

- CytoScan Substrate Mix
  No additional information available
- 2-amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride (1185-53-1)
  No additional information available
- NAD (53-84-9)
  No additional information available

8.2. Appropriate engineering controls
Appropriate engineering controls:
Ensure good ventilation of the work station.
Environmental exposure controls:
Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state:
  Solid
- Color:
  No data available
- Odor:
  No data available
- Odor threshold:
  No data available
- pH:
  No data available
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<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Melting point</td>
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<tr>
<td>Freezing point</td>
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<tr>
<td>Boiling point</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
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<td>Flammability (solid, gas)</td>
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<td>Vapor pressure</td>
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<td>Relative vapor density at 20 °C</td>
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<td>Solubility</td>
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<td>Log Pow</td>
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<tr>
<td>Auto-ignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Viscosity, dynamic</td>
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</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
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<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
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</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

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

2-amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride (1185-53-1)
Specific target organ toxicity – single exposure : May cause respiratory irritation.
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<table>
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<th>NAD (53-84-9)</th>
<th>Specific target organ toxicity – single exposure</th>
<th>May cause respiratory irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specific target organ toxicity – repeated exposure</td>
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<tr>
<td></td>
<td>Aspiration hazard</td>
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<tr>
<td></td>
<td>Viscosity, kinematic</td>
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</tbody>
</table>

**SECTION 12: Ecological information**

**12.1. Toxicity**

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**12.2. Persistence and degradability**

**2-amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride (1185-53-1)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Biodegradability in water: no data available.</th>
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**NAD (53-84-9)**

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Biodegradability in water: no data available.</th>
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</thead>
</table>

**12.3. Bioaccumulative potential**

**2-amino-2-(hydroxymethyl)-1,3-propanediol, hydrochloride (1185-53-1)**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>No bioaccumulation data available.</th>
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**NAD (53-84-9)**

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>No bioaccumulation data available.</th>
</tr>
</thead>
</table>

**12.4. Mobility in soil**

No additional information available

**12.5. Other adverse effects**

No additional information available

**SECTION 13: Disposal considerations**

**13.1. Disposal methods**


**SECTION 14: Transport information**

**Department of Transportation (DOT)**

In accordance with DOT

Other information : No supplementary information available.

**Transportation of Dangerous Goods**

**Transport by sea**

Not regulated

**Air transport**

Not regulated

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**
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15.2. International regulations

CANADA

EU-Regulations

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 05/11/2017

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-phrases</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

SDS US (GHS HazCom 2012)

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.