12 July 2017

**Kit Components**

| Product Code | Description |
|---|---|
| A0102K, A32750, and A3202K | Ampligase Enzyme and Buffer |

Components

| |
|---|
| Ampligase DNA Ligase |
| 10X Reaction Buffer |

# Ampligase® Thermostable DNA Ligase

Safety Data Sheet

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

Revision date: 07/09/2017 Version: X.0

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

### 1.1. Product identifier

Product name : Ampligase® Thermostable DNA Ligase

Product form : Mixture

Product code : Ampligase® Thermostable DNA Ligase is a component in Ampligase® Thermostable DNA Ligase Products (A8101, A30201, A0110K, A3210K, A0102K, A32250, A32750, A3202K, A1905B, A3201S).

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

Use of the substance/mixture : Laboratory chemical.

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

Lucigen Corporation
2905 Parmenter Street
Middleton, WI 53562
U.S.A.
Phone: (608) 831-9011
Fax: (608) 831-9012
E-mail: techserv@lucigen.com

### 1.4. Emergency telephone number

Emergency number : 1-888-575-9695 (Lucigen: Monday-Friday, 8:00AM-5:00PM)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Not a hazardous substance or mixture.

### 2.2. Label elements

Not a hazardous substance or mixture.

### 2.3. Other hazards

None.

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

No data available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixture

| Name | Product identifier | % |
|---|---|---|
| **Glycerol, CAS # 56-85-1**<br>EC# 200-289-5<br>Chemical Formula: $C_3H_8O_3$<br>Molecular Weight: 92.09 g/mol<br>Synonyms: Glycerin, 1,2,3-Propanetril | Ingredient in product. | 50% |

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, consult a physician. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin for at least 15 minutes with tepid water. Consult a physician.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of tepid water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Consult a physician.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth thoroughly and consult a physician. Do not induce vomiting.

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

Symptoms/injuries : Not expected to present a significant acute hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation : May cause upper respiratory irratation.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

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

No additional information available

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

Suitable extinguishing media : Water spray, carbon dioxide, dry chemical powder, or appropriate foam.

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

Fire hazard : Emits toxic fumes under fire conditions.

Explosion hazard : Emits toxic fumes under fire conditions.

Reactivity : No dangerous reactions known under normal conditions of use.

**5.3. Advice for firefighters**

Firefighting instructions : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

General measures : Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

**6.1.1. For non-emergency personnel**

Protective equipment : Wear Personal Protective Equipment as described in Section 8.

**6.1.2. For emergency responders**

Protective equipment : Wear suitable protective clothing, gloves, respirator, and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". Avoid contact with skin and eyes.

**6.2. Environmental precautions**

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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

For containment : Contain any spills with dikes or inert absorbents (e.g., sand or vermiculite) to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert absorbants, such as sand or vermiculite as soon as possible. Place in closed waste container for disposal. This material and its container must be disposed of in a safe way, and as per local, state, and federal legislation.

**6.4. Reference to other sections**

No additional information available

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wear recommended personal protective equipment. Avoid breathing dust, vapour, mist, or gas. Avoid contact with eyes, skin, and clothing. Wash hands and other exposed areas with mild soap and water after handling material, leaving the laboratory, before eating, drinking or smoking and when leaving work.

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

Storage conditions : Store in a -20°C freezer without a defrost cycle.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Components with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| Glycerol | 56-81-5 | TWA | 10 mg/m3 | USA. OSHA – TABLE Z-1 Limits for Air Contaminants – 1910.1000 |
| | | TWA | 10 mg/3 | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract Irritation | | |
| | | TWA | 5 mg/m3 | USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants |
| | | TWA | 15 mg/m3 | USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants |

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Ensure adequate ventilation, especially in confined areas. Emergency safety shower and eye wash station should be available. Avoid prolonged or repeated exposure.

Personal protective equipment : Gloves. Protective goggles. Laboratory Coat.

Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suitable gloves for this specific application can be recommended by the glove supplier. Suggested glove materials are: Neoprene, Nitrile.

Eye protection : Safety goggles should be worn when working with mixture. Avoid direct contact with eyes.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure as necessary.

Respiratory protection : Use NIOSH/MSHA-approved dust/particulate respirator if exposure symptoms develop. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. Do not breathe in vapour, mist, or dust.

## SECTION 9: Physical and chemical properties

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

Physical state : Liquid, viscous and colorless

Color : Colorless

Odor : No data available

Odor Threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Relative evaporation rate : No data available

Flammability (solid, gas) : No data available

Vapour pressure : No data available

Relative vapour density at 20°C : No data available

Relative density : No data available

Solubility in Water : No data available

Log Pow : No data available

Log Kow : No data available

Auto-ignition temperature : No data available

Decomposition temperature : 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**

None.

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

No dangerous reactions known under normal conditions of use.

**10.2. Chemical stability**

Stable under use and storage conditions as recommended in section 7.

**10.3. Possibility of hazardous reactions**

None known. Hazardous polymerization does not occur.

**10.4. Conditions to avoid**

No additional information available

**10.5. Incompatible materials**

Strong oxidizing agents, strong bases.

**10.6. Hazardous decomposition products**

Carbon monoxide, carbon dioxide.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

| | |
|---|---|
| Acute toxicity | : No data available |
| Skin corrosion/irritation | : No data available |
| Serious eye damage/irritation | : No data available |
| Respiratory or skin sensitisation | : No data available |
| Germ cell mutagenicity | : No data available |
| Carcinogenicity | : IARC – No component of this product present at levels greater than or equal to 0.1% is dientified as probablye, possible, or confirmed human carcinogen by IARC.<br>ACGIH – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.<br>NTP – No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticpated carcinogen by NTP.<br>OSHA – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinoen or potential carcinogen by OSHA. |
| Reproductive toxicity | : No data available |
| Specific target organ toxicity (single exposure) | : No data available |
| Specific target organ toxicity (repeated exposure) | : No data available |
| Aspiration hazard | : No data available |
| Symptoms/injuries after inhalation | : May cause respiratory irratation. |
| Symptoms/injuries after skin contact | : May cause skin irritation. |
| Symptoms/injuries after eye contact | : Direct contact with the eyes is likely to be irritating. |
| Symptoms/injuries after ingestion | : May cause gastrointestinal irritation. |
| Additional Information | : RTECS: MA8050000. Prolonged exposure may cause nausea, vomitting, and headache. Kidneys may be affected. |

## SECTION 12: Ecological information

**12.1. Toxicity**

No additional information available

**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. Waste treatment methods

Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Product should not be discharged to surface waters without a NPDES permit.

Waste disposal recommendations : Dispose in a safe manner in accordance with local, state, and federal regulations. Avoid release to the environment.

## SECTION 14: Transport information

**DOT**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

**SARA 302**

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

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This product does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**

Chronic Health Hazard

**SARA 313**

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

**15.2. International regulations**.

European Union Directive 67/548/EEC: Irritant R36/38, irritant to eyes and skin. S26, in the case of eye contact, rinse immediately with plenty of water and consult a physician. S36, wear appropriate personal protective equipment.

**15.3. US State regulations**

**California Proposition 65**

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

**Massachusetts Right To Know Components**
Glycercol, CAS 56-81-5

**New Jersey Right to Know Hazardous Substance List**
Glycercol, CAS 56-81-5

**Pennsylvania Right to Know List**
Glycercol, CAS 56-81-5

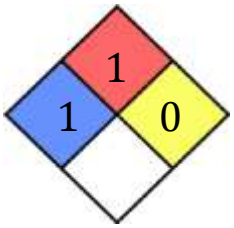
## SECTION 16: Other information

Indication of changes : Revision X.0: Updated format.

Revision date : 07/09/2017

Other information : Author:

| | | |
|---|---|---|
| NFPA health hazard | : | 1 – Poses no health hazard, no precautions necessary, and would offer no hazard beyond that of ordinary combustible materials. |
| NFPA fire hazard | : | 1 – Flash point is at or above 93.3°C. |
| NFPA reactivity | : | 0 - Normally stable, even under fire exposure conditions, and is not reactive with water. |




**HMIS III Rating**

| | | |
|---|---|---|
| Health | : | 1 |
| Flammability | : | 0 |
| Physical Hazard | : | 0 |
| Personal Protection | : | |

This information is disclosed to the best of Lucigen's knowledge. This document does not constitute a contractual relationship with product end users or handlers with respect to the possible presence of hazards in this item. Disposal should be in accordance with applicable regional, national and local laws and regulations.

# 10X Ampligase® Reaction Buffer.

Safety Data Sheet

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

Revision date: 07/09/2017 Version: X.0

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

### 1.1. Product identifier

Product name : 10X Ampligase® Reaction Buffer

Product form : Mixture

Product code : 10X Ampligase® Reaction Buffer is part of the Ampligase® Thermostable DNA Ligase Products (A8101, A30201, A0110K, A3210K, A0102K, A32250, A32750, A3202K, A1905B, A3201S).

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

Use of the substance/mixture : Laboratory chemical.

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

Lucigen Corporation
2905 Parmenter Street
Middleton, WI 53562
U.S.A.
Phone: (608) 831-9011
Fax: (608) 831-9012
E-mail: techserv@lucigen.com

### 1.4. Emergency telephone number

Emergency number : 1-888-575-9695 (Lucigen: Monday-Friday, 8:00AM-5:00PM)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Not a hazardous substance or mixture.

### 2.2. Label elements

Not a hazardous substance or mixture.

### 2.3. Other hazards

None.

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

No data available.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixture

| Name | Product identifier | % |
|---|---|---|
| **Tris HCl, CAS # 77-86-1**<br>EC# 201-064-4<br>Chemical Formula: $C_4H_{11}NO_3$<br>Molecular Weight: 121.14 g/mol<br>Synonyms: 2-Amino-2-(hydroxymethyl)-1,3-propanediol, THAM, Trometamol, Tris base, Tris(hydroxymethyl)aminomethane | Ingredient in product. | 1.2% |
| **Potassium Chloride, CAS # 7447-40-7**<br>EC# 231-211-8<br>Chemical Formula: KCl<br>Molecular Weight: 74.55 g/mol | Ingredient in product. | 3.7% |
| **Magnesium Chloride Hexahydrate, CAS # 7791-18-6**<br>EC# 232-094-6<br>Chemical Formula: $MgCl_2*H_2O$<br>Molecular Weight: 203.30 g/mol | Ingredient in product. | 2.0% |

No ingredients are hazardous according to OSHA criteria. No components need to be disclosed according to the applicable regulations.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, consult a physician. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin for at least 15 minutes with tepid water. Consult a physician.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of tepid water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Consult a physician.

First-aid measures after ingestion : IF SWALLOWED: Never give anything by mouth to an unconscious person. Obtain medical assistance. Do NOT induce vomiting unless directed by medical personnel. If conscious and alter, rinse mouth and drink 2-4 cupfuls of water. Wash mouth out with water.

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

Symptoms/injuries : Not expected to present a significant acute hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation : May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Symptoms/injuries after skin contact : May be harmful if absorbed through the skin.

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : May be harmful if swallowed.

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

No data available.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, carbon dioxide, dry chemical powder, alcohol-resistant foam, or appropriate foam.

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

Fire hazard : Emits toxic fumes under fire conditions.

Explosion hazard : No data available.

Reactivity : No data available.

### 5.3. Advice for firefighters

Firefighting instructions : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

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

General measures : Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear Personal Protective Equipment as described in Section 8.

#### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves, respirator, and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection". Avoid contact with skin and eyes.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

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

For containment : Contain any spills with dikes or inert absorbents (e.g., sand or vermiculite) to prevent migration and entry into sewers or streams.

Methods for cleaning up : Soak up spills with inert absorbants, such as sand or vermiculite as soon as possible. Place in closed waste container for disposal. This material and its container must be disposed of in a safe way, and as per local, state, and federal legislation.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wear recommended personal protective equipment. Avoid breathing dust, vapour, mist, or gas. Avoid contact with eyes, skin, and clothing. Wash hands and other exposed areas with mild soap and water after handling material, leaving the laboratory, before eating, drinking or smoking and when leaving work.

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

Storage conditions : Store in a -20°C freezer without a defrost cycle.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Contains no substances with occupational exposure limit values.

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Ensure adequate ventilation, especially in confined areas. Emergency safety shower and eye wash station should be available. Avoid prolonged or repeated exposure.

Personal protective equipment : Gloves. Protective goggles. Laboratory Coat.

Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suitable gloves for this specific application can be recommended by the glove supplier. Suggested glove materials are: Neoprene, Nitrile.

Eye protection : Safety goggles should be worn when working with mixture. Avoid direct contact with eyes.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure as necessary.

Respiratory protection : Use NIOSH/MSHA-approved dust/particulate respirator if exposure symptoms develop. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. Do not breathe in vapour, mist, or dust.

## SECTION 9: Physical and chemical properties

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

| | |
|---|---|
| Physical state | : Liquid |
| Color | : No data available |
| Odor | : No data available |
| Odor Threshold | : No data available |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |
| Relative vapour density at 20°C | : No data available |
| Relative density | : No data available |
| Solubility in Water | : No data available |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : 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

None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Strong oxidizing agents, strong acids

### 10.6. Hazardous decomposition products

Nitrogen oxides, Carbon oxides, Potassium oxides, Hydrogen chloride gas, Magnesium oxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

| | | |
|---|---|---|
| Acute toxicity | : | No data available |
| Skin corrosion/irritation | : | No data available |
| Serious eye damage/irritation | : | No data available |
| Respiratory or skin sensitisation | : | No data available |
| Germ cell mutagenicity | : | No data available |
| Carcinogenicity | : | IARC – No component of this product present at levels greater than or equal to 0.1% is dientified as probablye, possible, or confirmed human carcinogen by IARC.<br>ACGIH – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.<br>NTP – No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticpated carcinogen by NTP.<br>OSHA – No component of this product present at levels greater than or equal to 0.1% is identified as a carcinoen or potential carcinogen by OSHA. |
| Reproductive toxicity | : | No data available |
| Specific target organ toxicity (single exposure) | : | No data available |
| Specific target organ toxicity (repeated exposure) | : | No data available |
| Aspiration hazard | : | No data available |
| Symptoms/injuries after inhalation | : | May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. |
| Symptoms/injuries after skin contact | : | May be harmful if absorbed through the skin. |
| Symptoms/injuries after eye contact | : | May cause eye irritation. |
| Symptoms/injuries after ingestion | : | May be harmful if swallowed. |
| Additional Information | : | The chemical, physical, and toxicological properties have not been thoroughly investigated. |

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 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. Waste treatment methods

| | | |
|---|---|---|
| Waste treatment methods | : | Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Product should not be discharged to surface waters without a NPDES permit. |

Waste disposal recommendations : Dispose in a safe manner in accordance with local, state, and federal regulations. Avoid release to the environment.

## SECTION 14: Transport information

**DOT**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

**SARA 302**

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

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This product does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**

Chronic Health Hazards

**SARA 313**

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

**15.2. International regulations**.

No additional information available

**15.3. US State regulations**

**California Proposition 65**

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

**Massachusetts Right To Know Components**
No components are subject to the Massachusetts Right to Know Act.

**New Jersey Right to Know Hazardous Substance List**
Magnesium chloride hexahydrate, CAS 7791-18-6
Potassium Chloride, CAS 7447-40-7
Tris(hydroxymethyl)aminomethane, CAS 77-86-1

**Pennsylvania Right to Know List**
Magnesium chloride hexahydrate, CAS 7791-18-6
Potassium Chloride, CAS 7447-40-7
Tris(hydroxymethyl)aminomethane, CAS 77-86-1

## SECTION 16: Other information

Indication of changes : Revision X.0: Updated format.

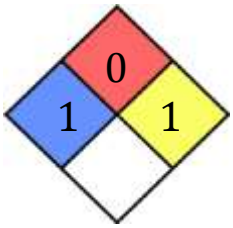
Revision date : 07/09/2017

Other information : Author:

NFPA health hazard : 1 – Poses no health hazard, no precautions necessary, and would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 – Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures.




**HMIS III Rating**

Health : 1

Flammability : 0

Physical Hazard : 1

Personal Protection :

This information is disclosed to the best of Lucigen's knowledge. This document does not constitute a contractual relationship with product end users or handlers with respect to the possible presence of hazards in this item. Disposal should be in accordance with applicable regional, national and local laws and regulations.