

26 July 2017

Kit Components

Product Code	Description
RJ411250	Rec J Exonuclease

Components

Rec J Exonuclease	
10X Reaction Buffer	



Rec J Exonuclease.

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 07/25/2017 Version: X.0

Revision date: 07/25/2017 Version: A.

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

1.1. Product identifier

Product name Product form

Product code

: Rec J Exonuclease

: Mixture

: This component is found in Rec J Exonuclease I (RJ411250).

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

GHS-US classification Not classified.

Not classified.

2.2. Label elements

GHS-US labelling

No labelling applicable.

2.3. Other hazards

Irritant to eyes and skin. Target organs are kidneys.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients

3.2. Mixture

4.1.

Name	Product identifier	%
Glycerol, CAS # 56-85-1 EC# 200-289-5 Chemical Formula: C ₃ H ₈ O ₃ Molecular Weight: 92.09 g/mol Synonyms: Glycerin, 1,2,3-Propanetril	Ingredient in product.	50%

SECTION 4: First aid measures

Description of first aid measures

07/07/00/7	
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after inhalation	: May cause upper respiratory irratation.
Symptoms/injuries	: Not expected to present a significant acute hazard under anticipated conditions of normal use.
4.2. Most important symptoms and	effects, both acute and delayed
First-aid measures after ingestion	: IF SWALLOWED: Rinse mouth thoroughly and consult a physician. Do not induce vomiting.
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 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 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 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.
4.1. Description of mist ald measure	

Rec J Exonuclease Safety Data Sheet

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

- Symptoms/injuries after eye contact
- 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 su	ibstance 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 mea	sures	
6.1. Personal precautions, protective ed	uipment 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".	
6.2. Environmental precautions		
Prevent entry to sewers and public waters. Notif	y authorities if liquid enters sewers or public waters. Avoid release to the environment.	
6.3. Methods and material for containm	ent 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		

: Direct contact with the eyes is likely to be irritating.

7.1.	Precautions for safe handling		
Precaut	ions for safe handling	: Do not handle until all safety precautions have been read and understood. Wear recommended personal protective equipment. 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 at -20°C in a freezer without a defrost cycle.

Rec J Exonuclease Safety Data Sheet

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

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	TWA 5 mg/m3 USA. Occupational Exposure Lir Table Z-1 Limits for Air Contamin	
		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.



materials are: Neoprene, Nitrile.

Hand protection

Eye protection	
Skin and body protection	
Respiratory protection	

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

: 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

- : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.
- : Use NIOSH/MSHA-approved dust/particulate respirator. 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	
рН	: No data available	
Melting point	: No data available	
Freezing point (50% aquesous solution)	: 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	

Rec J Exonuclease Safety Data Sheet

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

: No data available

Explosive limits

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

None known.

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.	
	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.	
	NTP – No component of this product present at levels greater than or equal to 0.1% is ide as a known or anticpated carcinogen by NTP.	entified
	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 upper respiratory irratation. May cause headaches.	
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

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

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal conside	rations
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 informa	ation
DOT	

Not hazardous for transport

IMDG

No additional information available

ΙΑΤΑ

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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 302

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

SARA 313

This materials 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 Glycerol, CAS 56-81-5

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

SECTION 16: Other information

Indication of changes Revision date Other information : Revision X.0: Updated format.

: 07/25/2017 : Author:

07/25/2017

Rec J Exonuclease Safety Data Sheet Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA health hazard	 1 – Exposure will cause irriation with only minor residual injury. 	
NFPA fire hazard	: 1 – Flash point is at or above 93.3°C.	$\wedge 1 \wedge$
NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.	
HMIS III Rating		
Health	: 1	
Flammability	: 1	
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.



Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 07/25/2017 Version: X.0

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

1.1. Product identifier

Product name Product form

Product code

: 10X Reaction Buffer, 10X DNase Buffer

: Mixture

: This component is found in the following products: Exonuclase III, E. coli (EX4405K, EX4425K); MasterPure[™] Yeast RNA Purification Kit (MPY03010, MPY03100); Plasmid-Safe[™] ATP-Dependent DNase (E3101K, E3105K, E3110K); Rec J Exonuclease, E. coli (RJ411050, RJ411250); and T4 Polynucleotide Kinase, Cloned (P050H, P0501K, P0503K).

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 Acetate, CAS # 6850-28-8 EC# 229-939-6 Chemical Formula: C ₄ H ₁₁ NO ₃ Molecular Weight: 181.19 g/mol Synonyms: Trisacetate salt, Tris(hydroxymethyl)aminomethaneacetate salt, [2-Hydroxy-1, 1-bis(hydroxymethyl)ethyl]ammonium acetate	Ingredient in product.	6%
Potassium Acetate, CAS # 127-08-2 EC# 204-822-2 Chemical Formula: C ₂ H ₃ KO ₂ Molecular Weight: 98.14 g/mol Synonyms: K(acac)	Ingredient in product.	5.9%
Magnesium Acetate, CAS # 142-72-3 EC# 205-554-9 Chemical Formula: C ₄ H ₆ MgO ₄ Molecular Weight: 142.39 g/mol Synonyms: Magnesium di(acetate)	Ingredient in product.	1.4%

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

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and 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. IF IN EYES: Immediately flush with plenty of tepid water for at least 15 minutes. Remove First-aid measures after eye contact 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 cause irritation to respiratory tract. 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 irritation of the digestive tract.

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 fro	2. Special hazards arising from the substance or mixture		
Fire hazard	: Emits toxic fumes under fire conditions.		
Explosion hazard	: No data available.		
Reactivity : Product does not burn.			
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	se measures		
6.1. Personal precautions, prot	ective equipment and emergency procedures		
General measures	: Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews		

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. No	ify 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

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

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.	7.2. Conditions for safe storage, including any incompatibilities		
Storage	e conditions	: For 10X Rec J Exonuclease Reaction Buffer, store between in a freezer without a defrost cycle between -65°C and -85°C. For T4 Polynucleotide Kinase, Cloned 10X Reaction Buffer, Exonuclease II 10X Reaction Buffer, MasterPure [™] Yeast RNA 10X DNase Buffer and Plasmid- Safe [™] 10X Reaction Buffer, 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				
07/25/2017	10X Reaction, DNase Buffer				

Safety Data Sheet

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

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

Excess heat.

10.5. Incompatible materials

Strong oxidants, stong acids.

10.6. Hazardous decomposition products

Nitrogen oxides, Carbon oxides, Potassium oxide, 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.
		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.
		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.
		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	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	May cause gastrointestinal irritation.
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

Safety Data Sheet

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

Mobility in soil 12.4.

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations		
13.1.	Waste treatment methods	
Waste t	reatment 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 o	disposal recommendations	 Dispose in a safe manner in accordance with local, state, and federal regulations. Avoid release to the environment.

DOT Not dangerous goods

IMDG

Not dangerous goods

ΙΑΤΑ

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

No SARA 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

[2-Hydroxy-1, 1-bis(hydroxymethyl)ethyl]ammonium acetate, CAS 6850-28-8 Magnesium di(acetate) CAS 142-72-3 Potassium acetate, CAS 127-08-2

Pennsylvania Right to Know List

[2-Hydroxy-1, 1-bis(hydroxymethyl)ethyl]ammonium acetate, CAS 6850-28-8 Magnesium di(acetate) CAS 142-72-3 Potassium acetate, CAS 127-08-2

SECTION 16: Other inforr	nation
Indication of changes	: Revision X.0: Updated format.
Revision date	: 07/25/2017
Other information	: Author:
NFPA health hazard	: 1 – Exposure would cause irritation with only minor residual injury.
NFPA fire hazard	: 0 – Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
07/25/2017	10V Pagetion DNaga Putter

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

NFPA reactivity	: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating	
Health	: 0
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.