



Material Safety Data Sheet

Version 1.0

Release Date: 7/16/2020

Overview

Kit:

Product Number	Product Name
200-100	Cyclic-di-GMP assay

Components:

Product Number	Product Name
200-100A	Custom RNA oligos
200-100B	DFHBI-1T fluorophore
200-100C	Cyclic-di-GMP (c-di-GMP)
200-100D	4X c-di-GMP assay (CA) buffer
200-100E	4X bacterial compatibility (BC) reagent

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Custom RNA oligos
Product Number : 200-100A
Product Use : For laboratory research purpose
Supplier : Lucerna, Inc.
760 Parkside Avenue
Suite 327C
Brooklyn, NY 11226
USA
Manufacturer : Lucerna, Inc.
760 Parkside Avenue
Suite 327C
Brooklyn, NY 11226
USA
Telephone : +1 855-582-3762
Fax : +1 646-792-4724
Emergency Phone : (646) 504-5697 (For both supplier and manufacturer)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Custom RNA oligos
Modified oligos
Oligonucleotide
RNA

3. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not a hazardous substance or mixture

GHS label elements, including precautionary statements

Not a hazardous substance or mixture

Hazards not otherwise classified (HNOC) or not covered by GHS

None

HMIS rating
Health hazard : 0
Chronic health hazard : 0
Flammability : 0
Physical hazard : 0

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NFPA rating
Health hazard : 0
Fire hazard : 0
Reactivity hazard : 0

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Flush eyes with water as a precaution. Consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash Point : No data available
Ignition Temperature : No data available

Special hazards arising from the substance or mixture

No data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

Environmental precautions

No special environmental precautions required

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Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

Contains no substances with occupational exposure limit values.

Personal protective equipment**Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Control of environment exposure

No specific environment precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	Solid
Color	White
Odor	Odorless

Safety data

pH	Not applicable
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Solubility	No data available
Upper explosion limit	No data available

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions. No known decomposition information.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

No data available

Inhalation

No data available

Irritation and corrosion

No data available

Sensitization

No data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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 anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION**Persistence and degradability**

No data available

Ecotoxicity effects

No data available

Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations.

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Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
No known OSHA hazards

DSL Status
This product contains the following components that are not on the Canadian DSL nor NDSL lists.

Oligonucleotides CAS-No.

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

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

SARA 311/312 Hazards
No SARA Hazards

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

Pennsylvania Right To Know Components
Oligonucleotides CAS-No.

New Jersey Right To Know Components

Oligonucleotides

CAS-No.

California Prop. 65 Components

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

16. OTHER INFORMATION**Further information**

Copyright 2020 Lucerna, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lucerna, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See website for additional terms and conditions of sale.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : (Z)-4-(3,5-difluoro-4-hydroxybenzylidene)-2-methyl-1-(2,2,2-trifluoroethyl)-1H-imidazol-5(4 H)-one (DFHBI-1T)
 Product Number : 200-100B
 Product Use : For laboratory research purpose
 Supplier : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Manufacturer : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Telephone : +1 855-582-3762
 Fax : +1 646-792-4724
 Emergency Phone : (646) 504-5697 (For both supplier and manufacturer)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : DFHBI-1T
 Formula : $C_{13}H_9F_5N_2O_2$
 Molecular Weight : 320.21 g/mol
 CAS Number : 1539318-36-9
 CAS Name : 4H-Imidazol-4-one, 5-[(3,5-difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-3-(2,2,2-trifluoroethyl)-, (5Z)-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA hazard : No known OSHA hazards

HMIS Classification

Health hazard : 1
 Flammability : 1
 Physical hazard : 1

NFPA Rating

Health hazard : 1
 Fire : 1

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Reactivity hazard : 1

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Flush eyes with water as a precaution. Consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point :	152.1 ± 30.7 °C
Ignition temperature :	No data available

Special hazards arising from the substance or mixture

No data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

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Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Control of environment exposure

No specific environment precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	Crystalline powder
Color	Yellow
Odor	Odorless

Safety data

pH	Not applicable
Melting point	No data available
Boiling point	327.9 ± 52.0 °C
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Solubility	Soluble at 100 mM DMSO
Upper explosion limit	No data available

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions. No known decomposition information.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

No data available

Irritation and corrosion

No data available

Sensitization

No data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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 anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION**Persistence and degradability**

No data available

Ecotoxicity effects

No data available

Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

DSL Status

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

4*H*-Imidazol-4-one, 5-[(3,5-difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-3-(2,2,2-trifluoroethyl)-, (5*Z*)- CAS-No. 1539318-36-9

SARA 302 Components

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

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

4*H*-Imidazol-4-one, 5-[(3,5-difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-3-(2,2,2-trifluoroethyl)-, (5*Z*)- CAS-No. 1539318-36-9

New Jersey Right To Know Components

4*H*-Imidazol-4-one, 5-[(3,5-difluoro-4-hydroxyphenyl)methylene]-3,5-dihydro-2-methyl-3-(2,2,2-trifluoroethyl)-, (5*Z*)- CAS-No. 1539318-36-9

California Prop. 65 Components

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

16. OTHER INFORMATION**Further information**

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Cyclic-di-GMP (c-di-GMP) sodium salt
 Product Number : 200-100C
 Product Use : For laboratory research purpose
 Supplier : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Manufacturer : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Telephone : +1 855-582-3762
 Fax : +1 646-792-4724
 Emergency Phone : (646) 504-5697 (For both supplier and manufacturer)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 3'5'-cyclic diguanylic acid sodium salt
 Bis(3'5')-cyclic diguanylic acid sodium salt
 Cyclic diguanosine-5'-monophosphate sodium salt
 c-di-GMP sodium salt
 cGpGp sodium salt
 Cyclic diguanosine-5'-monophosphate sodium salt
 Formula : $C_{20}H_{24}N_{10}O_{14}P_2 \cdot xNa$
 Molecular Weight : 690.41 g/mol
 CAS Number : 61093-23-0 (free acid)

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA hazard : No known OSHA hazards

HMIS Classification

Health hazard : 0
 Flammability : 0
 Physical hazard : 0

NFPA Rating

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Health hazard :	0
Fire :	0
Reactivity hazard :	0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Flush eyes with water as a precaution. Consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point :	No data available
Ignition temperature :	No data available

Special hazards arising from the substance or mixture

No data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Control of environment exposure

No specific environment precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Solid
Color	White
Odor	Odorless

Safety data

pH	Not applicable
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Solubility	No data available
Upper explosion limit	No data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions – carbon oxides, nitrogen oxides, oxides of phosphorous, sodium oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Irritation and corrosion

No data available

Sensitization

No data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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 anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

Persistence and degradability

No data available

Ecotoxicity effects

No data available

Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS

Product

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Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

DSL Status

This product contains no component that are not on the Canadian DSL nor NDSL lists.

SARA 302 Components

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

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

Cyclic-di-GMP sodium salt

CAS-No. 61093-23-0

New Jersey Right To Know Components

Cyclic-di-GMP sodium salt

CAS-No. 61093-23-0

California Prop. 65 Components

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

16. OTHER INFORMATION**Further information**

Copyright 2020 Lucerna, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lucerna, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See website for additional terms and conditions of sale.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : 4X c-di-GMP assay (CA) buffer
 Product Number : 200-100D
 Product Use : For laboratory research purpose
 Supplier : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Manufacturer : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Telephone : +1 855-582-3762
 Fax : +1 646-792-4724
 Emergency Phone : (646) 504-5697 (For both supplier and manufacturer)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance : Not applicable

Mixture

Chemical name	CAS no	Weight %	Trade secret
Magnesium chloride	7786-30-3	0-5%	*

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA hazard : No known OSHA hazards

HMIS Classification

Health hazard : 1
 Flammability : 0
 Physical hazard : 0

NFPA Rating

Health hazard : 1
 Fire : 0
 Reactivity hazard : 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Flush eyes with water as a precaution. Consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : No data available

Ignition temperature : No data available

Special hazards arising from the substance or mixture

No data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Hygroscopic. Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Control of environment exposure

No specific environment precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	Liquid
Color	Colorless
Odor	Odorless

Safety data

pH	Not applicable
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Solubility	No data available
Upper explosion limit	No data available

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions. No known decomposition information.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

No data available

Chemical name	Oral LD50	Dermal LD50	Inhalation LD50
Magnesium chloride	2,800 mg/kg (rat)	-	-

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Irritation and corrosion

No data available

Sensitization

No data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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 anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION**Persistence and degradability**

No data available

Ecotoxicity effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Magnesium chloride	EC50: >82.7 mg/L (Pseudokirchneriella subcapitata)	LC50: 4,210 mg/L (96h, Gambusia affinis) LC50: 1,970- 3,880 mg/L	-	EC50: 140 mg/L (48h, Daphnia magna) EC50: 1,400 mg/L (24h,

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		(96h, Pimephales promelas)		Daphnia magna)
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Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

DSL Status

This product contains no component that are not on the Canadian DSL nor NDSL lists.

SARA 302 Components

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

SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

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

New Jersey Right To Know Components

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components

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

16. OTHER INFORMATION

Further information

Copyright 2020 Lucerna, Inc. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lucerna, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See website for additional terms and conditions of sale.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : 4X bacterial compatibility (BC) buffer
 Product Number : 200-100E
 Product Use : For laboratory research purpose
 Supplier : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Manufacturer : Lucerna, Inc.
 760 Parkside Avenue
 Suite 327C
 Brooklyn, NY 11226
 USA
 Telephone : +1 855-582-3762
 Fax : +1 646-792-4724
 Emergency Phone : (646) 504-5697 (For both supplier and manufacturer)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance : Not applicable

Mixture

Chemical name	CAS no	Weight %	Trade secret
Potassium chloride	7447-40-7	0-50%	*

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA hazard : No known OSHA hazards

HMIS Classification

Health hazard : 1
 Flammability : 0
 Physical hazard : 0

NFPA Rating

Health hazard : 1
 Fire : 0
 Reactivity hazard : 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a doctor.

In case of skin contact

Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Flush eyes with water as a precaution. Consult a doctor.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : No data available

Ignition temperature : No data available

Special hazards arising from the substance or mixture

No data available

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Light sensitive

Storage class (TRGS 510): 10: combustible liquids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment**Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hygiene measures

General industrial hygiene practice.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Control of environment exposure

No specific environment precautions required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Liquid
Color	Colorless
Odor	Odorless

Safety data

pH	Not applicable
Melting point	No data available
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Lower explosion limit	No data available
Solubility	No data available
Upper explosion limit	No data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Avoid moisture.

Materials to avoid

Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products may form under fire conditions. No known decomposition information.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

No data available

Chemical name	Oral LD50	Dermal LD50	Inhalation LD50
Potassium chloride	3,030 mg/kg (rat)	-	-

Irritation and corrosion

No data available

Sensitization

No data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, 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 anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

Specific target organ toxicity – single exposure

No data available

Specific target organ toxicity – repeated exposure

No data available

Weak, may cause irritation of the: gastrointestinal tract, Disturbance of: circulatory system, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver – Irregularities – Based on human evidence

12. ECOLOGICAL INFORMATION

Persistence and degradability

No data available

Ecotoxicity effects

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Potassium chloride	EC50: >100 mg/L (72h, <i>Desmodesmus subcapitata</i>)	LC50: 880 mg/L (96h, <i>Pimephales promelas</i>)	EC50: >1,000 mg/L (3h, activated sludge)	EC50: 440-880 mg/L (48h, <i>Daphnia magna</i>)

Further information on ecology

No data available

13. DISPOSAL CONSIDERATIONS**Product**

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION**OSHA Hazards**

No known OSHA hazards

DSL Status

This product contains no component that are not on the Canadian DSL nor NDSL lists.

SARA 302 Components

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SARA 313 Components

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

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

Potassium chloride

CAS-No. 7447-40-7

New Jersey Right To Know Components

Potassium chloride

CAS-No. 7447-40-7

California Prop. 65 Components

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

16. OTHER INFORMATION**Further information**

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