



MATERIAL SAFETY DATA SHEET (MSDS)

Kit Name: VitroSure™ RNA FFPE Tissue Isolation Kit
SKU #: VB-5002 /VB5002s

Revision Date: 06-08-2024

Components:

Buffer VKD
Buffer VLT
Buffer VRN
Buffer VDD
Buffer VPE
DNase Stock Solution
Proteinase K Powder
Proteinase K Buffer
RNase Free Water

Buffer VKD MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Buffer VKD
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Components
Mixture	No hazardous ingredients

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

4. First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.
If inhaled : Move to fresh air. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed : If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed :
No information available.
Notes to physician : No information available.

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.
Hazardous combustion products : No hazardous combustion products are known
Further information : In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Do not allow uncontrolled discharge of product into the environment.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Safety glasses

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative density :	No data available
Density	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information. STOT-single exposure
Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

12. Ecological Information

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available
Toxicity to algae/aquatic plants : Remarks: No data available
Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available
Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This **product** neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Information

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
Contaminated packaging : Empty containers should be taken to an approved waste handling site

for recycling or disposal.

14. Transport Information

International Regulations

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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.

TSCA list No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Buffer VLT MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Buffer VLT
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Cas#
Guanidine Thiocyanate	593-84-0

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4
Serious eye damage : Category 1

GHS label elements

Hazard pictograms :
Signal word : Danger
Hazard statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary statements :
Prevention:
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards None known.

4. First Aid Measures

General advice : Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye.

If swallowed :	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects,	both acute and delayed : No information available. Harmful if swallowed. Causes serious eye damage.
Notes to physician :	No information available.

5. Fire Fighting Measures

Suitable extinguishing media :	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting :	Do not allow run-off from fire fighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health
Hazardous combustion products :	Carbon oxides Sulphur oxides
Further information :	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters :	Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods for Containment	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Unsuitable cleaning agents sodium hypochlorite

7. Handling and Storage

Advice on protection against fire and explosion	Normal measures for preventive fire protection.
Advice on safe handling :	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage :	Keep container tightly closed in a dry and well-ventilated place
Further information on storage stability	No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Personal protective equipment
Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems. Do not wear contact lenses. Ensure that eyewash stations and safety showers are close

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	7
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative density	No data available
Density	1.09 g/cm ³
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity :	No decomposition if stored and applied as directed.
Chemical stability :	No decomposition if stored and applied as directed.
Conditions to avoid :	No data available
Incompatible materials :	No data available
Hazardous decomposition products :	No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity :	Remarks: No data available
Acute inhalation toxicity :	Remarks: No data available
Acute dermal toxicity :	Remarks: No data available

Components:**guanidinium thiocyanate:**

Acute oral toxicity : LD50 Oral (Rat, female): 593 mg/kg Method: OECD Test Guideline 401

Acute toxicity (other routes of administration) : LD50 (Mouse): 300 mg/kg

Skin corrosion/irritation : Not classified based on available information.

Product:

Assessment :	No skin irritation
Method :	Bridging principles
Remarks :	May cause skin irritation in susceptible persons.
Serious eye damage/eye irritation	Causes serious eye damage.
Product:	
Remarks :	May cause irreversible eye damage.

Respiratory or skin sensitisation	
Skin sensitisation	Not classified based on available information.
Respiratory sensitisation	Not classified based on available information.
Product:	
Remarks :	No data available
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
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.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
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.
Reproductive toxicity	Not classified based on available information.
STOT - single exposure	Not classified based on available information.
STOT - repeated exposure	Not classified based on available information.
Aspiration toxicity	Not classified based on available information
Further information	
Product:	
Remarks :	No data available

12. Ecological Information

Ecotoxicity	
Product:	
Toxicity to fish :	Remarks: No data available
Toxicity to algae/aquatic plants :	Remarks: No data available
Toxicity to microorganisms :	Remarks: No data available
Components:	
guanidinium thiocyanate:	
Toxicity to fish :	LC50 (Poecilia reticulata (guppy)): 89.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates :	EC50 (Daphnia (water flea)): 42.4 mg/l Exposure time: 48 h
Toxicity to fish (Chronic toxicity) :	NOEC (Poecilia reticulata (guppy)): 25 mg/l Exposure time: 96 d
Persistence and degradability	No data available
Bioaccumulative potential	
Product:	
Bioaccumulation :	Remarks: No data available
Mobility in soil	No data available
Other adverse effects	
Product:	
Ozone-Depletion Potential :	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information :	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects

13. Disposal Information

Disposal methods	
Waste from residues :	The product should not be allowed to enter drains, water courses or the soil. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

14. Transport Information

International Regulations

UNRTDG

UN number : UN 1760 Proper shipping name :
CORROSIVE LIQUID, N.O.S.
(GUANIDINE THIOCYANATE)
Class : 8
Packing group : III
Labels : 8

IATA-DGR

UN/ID No. : UN 1760
Proper shipping name : Corrosive liquid, n.o.s.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : Corrosive
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG-Code

UN number : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number : UN 1760
Proper shipping name : Corrosive liquids, n.o.s.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : CORROSIVE
ERG Code : 154
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory Information

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards :	Acute toxicity (any route of exposure) Serious eye damage or eye irritation
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.
TSCA list	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Buffer VRN MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Buffer VRN
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Cas#
Guanidine Thiocyanate	593-84-0

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 4
Serious eye damage : Category 1

GHS label elements

Hazard pictograms :
Signal word : Danger
Hazard statements : H302 Harmful if swallowed.
H318 Causes serious eye damage.

Precautionary statements :
Prevention:
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.
Other hazards None known.

4. First Aid Measures

General advice : Move out of dangerous area. Show this safety data sheet to the doctor in attendance.
If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye.

If swallowed :	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects,	both acute and delayed : No information available. Harmful if swallowed. Causes serious eye damage.
Notes to physician :	No information available.

5. Fire Fighting Measures

Suitable extinguishing media :	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting :	Do not allow run-off from fire fighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health
Hazardous combustion products :	Carbon oxides Sulphur oxides
Further information :	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters :	Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental Release Measures

Personal Precautions	Use personal protective equipment as required. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray
Environmental Precautions	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.
Methods for Containment	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Unsuitable cleaning agents sodium hypochlorite

7. Handling and Storage

Advice on protection against fire and explosion	Normal measures for preventive fire protection.
Advice on safe handling :	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage :	Keep container tightly closed in a dry and well-ventilated place
Further information on storage stability	No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters
 Contains no substances with occupational exposure limit values.

Personal protective equipment
 Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems. Do not wear contact lenses. Ensure that eyewash stations and safety showers are close

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	7.3
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative density	No data available
Density	1.138 g/cm ³
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity :	No decomposition if stored and applied as directed.
Chemical stability :	No decomposition if stored and applied as directed.
Conditions to avoid :	No data available
Incompatible materials :	No data available
Hazardous decomposition products :	No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity :	Remarks: No data available
Acute inhalation toxicity :	Remarks: No data available
Acute dermal toxicity :	Remarks: No data available

Components:

guanidinium thiocyanate:

Acute oral toxicity : LD50 Oral (Rat, female): 593 mg/kg Method: OECD Test Guideline 401

Acute toxicity (other routes of administration) : LD50 (Mouse): 300 mg/kg

Skin corrosion/irritation : Not classified based on available information.

Product:

Assessment :	No skin irritation
Method :	Bridging principles
Remarks :	May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation : Causes serious eye damage.

Product:

Remarks : May cause irreversible eye damage.

Respiratory or skin sensitisation	
Skin sensitisation	Not classified based on available information.
Respiratory sensitisation	Not classified based on available information.
Product:	
Remarks :	No data available
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
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.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
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.
Reproductive toxicity	Not classified based on available information.
STOT - single exposure	Not classified based on available information.
STOT - repeated exposure	Not classified based on available information.
Aspiration toxicity	Not classified based on available information
Further information	
Product:	
Remarks :	No data available

12. Ecological Information

Ecotoxicity	
Product:	
Toxicity to fish :	Remarks: No data available
Toxicity to algae/aquatic plants :	Remarks: No data available
Toxicity to microorganisms :	Remarks: No data available
Components:	
guanidinium thiocyanate:	
Toxicity to fish :	LC50 (Poecilia reticulata (guppy)): 89.1 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates :	EC50 (Daphnia (water flea)): 42.4 mg/l Exposure time: 48 h
Toxicity to fish (Chronic toxicity) :	NOEC (Poecilia reticulata (guppy)): 25 mg/l Exposure time: 96 d
Persistence and degradability	No data available
Bioaccumulative potential	
Product:	
Bioaccumulation :	Remarks: No data available
Mobility in soil	No data available
Other adverse effects	
Product:	
Ozone-Depletion Potential :	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information :	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects

13. Disposal Information

Disposal methods	
Waste from residues :	The product should not be allowed to enter drains, water courses or the soil. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

14. Transport Information

International Regulations

UNRTDG

UN number : UN 1760 Proper shipping name :
CORROSIVE LIQUID, N.O.S.
(GUANIDINE THIOCYANATE)
Class : 8
Packing group : III
Labels : 8

IATA-DGR

UN/ID No. : UN 1760
Proper shipping name : Corrosive liquid, n.o.s.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : Corrosive
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG-Code

UN number : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number : UN 1760
Proper shipping name : Corrosive liquids, n.o.s.
(guanidine thiocyanate)
Class : 8
Packing group : III
Labels : CORROSIVE
ERG Code : 154
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory Information

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards :	Acute toxicity (any route of exposure) Serious eye damage or eye irritation
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.
TSCA list	No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Buffer VDD MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Buffer VDD
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Components
Mixture	No hazardous ingredients

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

4. First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.
If inhaled : Move to fresh air. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed : If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed :
No information available.
Notes to physician : No information available.

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.
Hazardous combustion products : No hazardous combustion products are known
Further information : In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Do not allow uncontrolled discharge of product into the environment.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Safety glasses

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	7.5
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative Density	No information available
Density	1g/cm ³
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Stable under recommended storage conditions. Hazardous

decomposition products formed under fire conditions. Keep away from oxidizing agents, and acidic or alkaline products.

Conditions to avoid : No data available
Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information. STOT-single exposure
Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

12. Ecological Information

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available
Toxicity to algae/aquatic plants : Remarks: No data available
Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available
Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This **product** neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Information

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
 Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information**International Regulations**

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information**CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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.

TSCA list No substances are subject to a Significant New Use Rule.
 No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Buffer VPE MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Buffer VPE
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Components
Mixture	No hazardous ingredients

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

4. First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.
If inhaled : Move to fresh air. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed : If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed :
No information available.
Notes to physician : No information available.

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.
Hazardous combustion products : No hazardous combustion products are known
Further information : In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Do not allow uncontrolled discharge of product into the environment.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Safety glasses

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	7.5
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative density :	No data available
Density	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information. STOT-single exposure
Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

12. Ecological Information

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available
Toxicity to algae/aquatic plants : Remarks: No data available
Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available
Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This **product** neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Information

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
Contaminated packaging : Empty containers should be taken to an approved waste handling site

for recycling or disposal.

14. Transport Information

International Regulations

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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.

TSCA list No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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DNase I MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name DNase I
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Chemical Description: An aqueous solution of ferric chloride and hydrochloric acid.

Name	CAS #
Deoxyribonuclease	9003-98-9

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Respiratory sensitization : Category 1
Skin sensitization : Category 1

GHS label elements

Hazard pictograms :
Signal Word : Danger
Hazard Statements : H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection face protection.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P
333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards None known.

4. First Aid Measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.
If inhaled : If unconscious, place in recovery position and seek medical advice.

In case of skin contact :	Keep respiratory tract clear. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact :	Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed :	If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed :	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. No information available.
Notes to physician :	No information available.

5. Fire Fighting Measures

Suitable extinguishing media :	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting :	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products :	Carbon oxides Nitrogen oxides (NOx)
Further information :	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters :	Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures :

Use personal protective equipment. Ensure adequate ventilation. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Environmental precautions :

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up :

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal

7. Handling and Storage

Advice on protection against fire and explosion :

Normal measures for preventive fire protection.

Advice on safe handling :

Avoid formation of aerosol. Do not breathe vapors/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage :

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

Further information on storage

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

Further information on storage stability :

No decomposition if stored and applied as directed

8. Exposure Controls / Personal Protection

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection :	In the case of vapor formation use a respirator with an approved filter.
Hand protection	
Material :	Protective gloves
Material :	Nitrile rubber
Break through time :	480 min
Glove thickness :	0.35 mm
Remarks :	The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.
Eye protection :	Tightly fitting safety goggles Do not wear contact lenses.
Skin and body protection :	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals
Hygiene measures :	Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Keep working clothes separately. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke

9. Physical and Chemical Properties

Appearance :	Liquid
Color :	No data available
Odor :	characteristic
Odor Threshold :	No data available
pH :	No data available
Melting point/range :	No data available
Boiling point/boiling range :	No data available
Flash point :	Not applicable
Evaporation rate :	No data available
Burning rate :	No data available
Upper explosion limit / Upper flammability limit :	No data available
Lower explosion limit / Lower flammability limit :	No data available
Vapor pressure :	No data available
Relative vapor density :	No data available
Relative density :	No data available
Density :	No data available
Solubility(ies)	
Water solubility :	No data available
Solubility in other solvents :	No data available
Partition coefficient: n-octanol/water :	No data available
Autoignition temperature :	not determined
Decomposition temperature :	No data available
Viscosity	
Viscosity, dynamic :	No data available
Viscosity, kinematic :	No data available
Explosive properties :	No data available
Oxidizing properties :	No data available

10. Stability and Reactivity Data

Reactivity :	No decomposition if stored and applied as directed.
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Chemical stability :	No decomposition if stored and applied as directed.
Conditions to avoid :	No data available
Incompatible materials :	No data available Hazardous decomposition products

11. Toxicological Information

Acute toxicity	Not classified based on available information.
Product:	
Acute oral toxicity :	Remarks: No data available
Acute inhalation toxicity :	Remarks: No data available
Acute dermal toxicity :	Remarks: No data available
Skin corrosion/irritation	
Not classified based on available information.	
Product:	
Remarks :	May cause skin irritation and/or dermatitis.
Serious eye damage/eye irritation	Not classified based on available information.
Product:	
Remarks :	The product causes irritation of eyes, skin and mucous membranes.
Respiratory or skin sensitization	
Skin sensitization	May cause an allergic skin reaction.
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Product:	
Remarks :	Causes sensitization. May cause sensitization by inhalation and skin contact.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Reproductive toxicity	Not classified based on available information
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available information.
Aspiration toxicity	Not classified based on available information.
Further information	
Product: Remarks :	No data available

12. Ecological Information

Ecotoxicity	
Product:	
Toxicity to fish :	Remarks: No data available
Toxicity to algae/aquatic plants :	Remarks: No data available
Toxicity to microorganisms :	Remarks: No data available
Persistence and degradability	No data available
Bioaccumulative potential	
Product:	
Bioaccumulation :	Remarks: No data available
Mobility in soil	No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Considerations

Disposal methods

Waste from residues : Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.
Contaminated packaging : Dispose of as unused product. Do not re-use empty containers.

14. Transport Information

International Regulations

UNRTDG Not regulated as a dangerous good
IATA-DGR Not regulated as a dangerous good
IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied. Domestic regulation

49 CFR Not regulated as a dangerous good

15. Regulatory Information

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitization

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.

Clean Air Act This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F): hydrogen chloride 7647-01-0

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489)

Clean Water Act This product does not contain any Hazardous Substances listed under

the U.S. CleanWater Act, Section 311, Table 116.4A. This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3. This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307 This product does not contain any priority pollutants related to the U.S. Clean Water Act.

US State Regulations

Pennsylvania Right To Know

water 7732-18-5
ribonuclease 9001-99-4

Maine Chemicals of High Concern This product does not contain any chemicals that are listed as Maine Chemicals of High Concern.

Maine Chemicals of High Concern This product does not contain any listed chemicals

New Jersey Right To Know

water 7732-18-5
ribonuclease 9001-99-4

TSCA list

No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Proteinase K Powder MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Proteinase K Powder
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	CAS No.
Proteinase K	39450-01-6

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Respiratory sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word :

Hazard Statements :

Danger

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary Statements :

Prevention:

P261 Avoid breathing mist or vapors.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P285 In case of inadequate ventilation wear respiratory protection.

Response:

P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Other hazards

None known.

4. First Aid Measures

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed : If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : May cause allergy or asthma symptoms or breathing difficulties if inhaled. No information available.

Notes to physician : No information available

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Carbon oxides Nitrogen oxides (NOx) Sulfur oxides

Further information : In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Prevent further leakage or spillage if safe to do so.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Handling Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from clothing and other combustible materials.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Do not store near combustible materials. Incompatible Materials. Reducing Agent. Strong acids. Strong reducing agents. Combustible material

8. Exposure Controls, Personal Protection

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Remarks :

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Safety glasses

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	Solid
Appearance	White
Odor	characteristic
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available

Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity :	No decomposition if stored and applied as directed.
Chemical stability :	No decomposition if stored and applied as directed.
Conditions to avoid :	No data available
Incompatible materials :	No data available
Hazardous decomposition products :	No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity
Not classified based on available information.

Product:	
Acute oral toxicity :	Remarks: No data available
Acute inhalation toxicity :	Remarks: No data available
Acute dermal toxicity :	Remarks: No data available

Serious eye damage/eye irritation
Not classified based on available information.

Product:	Remarks : The product causes irritation of eyes, skin and mucous membranes.
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Respiratory or skin sensitization

Skin sensitization	Not classified based on available information.
Respiratory sensitization	Not classified based on available information.
Product:	Remarks : No data available
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Reproductive toxicity	Not classified based on available information. STOT-single exposure Not classified based on available information.

Components:	
sodium dodecyl sulphate:	
Routes of exposure :	Inhalation
Assessment :	May cause respiratory irritation.

STOT-repeated exposure Not classified based on available information.
Aspiration toxicity Not classified based on available information.

Further information	
Product:	
Remarks :	No data available

12. Ecological Information

Ecotoxicity	Do not empty into drains.
Persistence and Degradability	Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.
Mobility Will likely be mobile in the environment due to its water

13. Disposal Information

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate class

14. Transport Information

International Regulations
UNRTDG Not regulated as a dangerous good
IATA-DGR Not regulated as a dangerous good
IMDG-Code Not regulated as a dangerous good

15. Regulatory Information

U.S. Federal Regulations
SARA 313 Not applicable
SARA 311/312 Hazard Categories See section 2 for more information
CWA (Clean Water Act) Not applicable
Clean Air Act Not applicable
OSHA - Occupational Safety and Health Administration
Not applicable
CERCLA Not applicable
California Proposition 65 This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations Not applicable
U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations
Mexico - Grade No information available
Authorisation/Restrictions according to EU REAC
1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Not applicable

Safety, health and environmental regulations/legislation specific for the substance or mixture
Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Not applicable

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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Proteinase K Buffer MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name Proteinase K Buffer
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Components
Mixture	No hazardous ingredients

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

4. First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.
If inhaled : Move to fresh air. If symptoms persist, call a physician.
In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
In case of eye contact : Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed : If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed :
No information available.
Notes to physician : No information available.

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.
Hazardous combustion products : No hazardous combustion products are known
Further information : In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Do not allow uncontrolled discharge of product into the environment.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

Further information on storage stability No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection :

Safety glasses

Skin and body protection :

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals

Hygiene measures :

Keep away from food and drink. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	8.0
Melting Point/Range	No information available
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Relative density :	No data available
Density	No data available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable

10. Stability and Reactivity

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Conditions to avoid : No data available

Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information. STOT-single exposure
Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

12. Ecological Information

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available
Toxicity to algae/aquatic plants : Remarks: No data available
Toxicity to microorganisms : Remarks: No data available

Persistence and degradability No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available
Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This **product** neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Information

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
Contaminated packaging : Empty containers should be taken to an approved waste handling site

for recycling or disposal.

14. Transport Information

International Regulations

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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.

TSCA list No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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RNase free water MSDS

1. Identification of the Substance/Mixture and Company

Identification of the substance or mixture

Product Name RNase free water
Product number
Product Description Kit Component

Manufacturer/Supplier

VitroVivo Biotech, LLC. 405 E Gude Dr. Suite 214, Rockville, MD 20850
Phone: 301-500-0499 Toll free: 1-800-260-9817 Fax: 844-248-6208

2. Composition/information on ingredients

Composition:

Name	Components
water	7732-18-5

3. Hazards Identification

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

4. First Aid Measures

General Advice Show this safety data sheet to the doctor in attendance.

If inhaled : Not applicable
Move to fresh air.

In case of skin contact : Not applicable.

In case of eye contact : Not applicable.

If swallowed : Not applicable.

Most important symptoms and effects, both acute and delayed :

No information available.

Notes to physician : No information available.

5. Fire Fighting Measures

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during fire fighting : Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : No hazardous combustion products are known

Further information : In the event of fire and/or explosion do not breathe fumes.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary

6. Accidental Release Measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing

Environmental Precautions Do not allow uncontrolled discharge of product into the environment.

Methods for Containment and Clean Up Keep in suitable, closed containers for disposal.

7. Handling and Storage

Advice on protection against fire and explosion : Normal measures for preventive fire protection.
Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Further information on storage stability No decomposition if stored and applied as directed.

8. Exposure Controls, Personal Protection

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Personal protective equipment

Hand protection Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Eye protection : Safety glasses
Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Footwear protecting against chemicals
Hygiene measures : Keep away from food and drink. When using do not eat, drink or smoke.

9. Physical and Chemical Properties

Physical State	liquid
Appearance	No data available
Odor	characteristic
Odor Threshold	No information available
pH	6-8
Melting Point/Range	32 °F / 0 °C
Boiling Point/Range	212 °F / 100 °C
Flash Point	does not flash
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	23 hPa (68 °F / 20 °C)
Vapor Density	Not applicable
Relative density :	1 (39.16 °F / 3.98 °C)
Density	1.00 g/cm ³
Solubility	
water	completely miscible
Solubility in other solvents	Not applicable
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	Not applicable
Molecular weight :	18.02 g/mol

10. Stability and Reactivity

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.
Conditions to avoid : No data available

Incompatible materials : No data available
Hazardous decomposition products : No decomposition if stored and applied as directed.

11. Toxicological Information

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available
Acute inhalation toxicity : Remarks: No data available
Acute dermal toxicity : Remarks: No data available

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information. STOT-single exposure
Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

12. Ecological Information

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available
Toxicity to algae/aquatic plants : Remarks: No data available
Toxicity to microorganisms : Remarks: No data available

Persistence and degradability

No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available
Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This **product** neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

13. Disposal Information

Disposal methods

Waste from residues : Dispose of contents/container in accordance with local regulation.
Contaminated packaging : Empty containers should be taken to an approved waste handling site

for recycling or disposal.

14. Transport Information

International Regulations

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

15. Regulatory Information

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

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.

TSCA list No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

16. Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

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ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent

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