

NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViB

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Trade name Buffer ViB

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

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Name Nippon Genetics Europe GmbH

Address Mariaweilerstraße 28–30; 52349 Dueren, Germany

Information contact Dr. Manuel Franke

E-Mail (competent person) <u>mfranke@nippongenetics.de</u>

02421554960 during office hours: Mo-Fr 8:00 - 17:00

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms

Signal word Warning

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P264 Wash skin/hands thoroughly after handling.

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

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P362 Take off contaminated clothing and wash before reuse.

Storage P405 Store locked up.

Disposal P501 Dispose of contents/container in accordance with all applicable

environmental lawsand regulations.

2.3 Other Non-GHS Classfication

NFPA SCALE (0-4) Health=0, Flammability=0, Reactivity=0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	CAS No. EC No.	Concent- ration (%)
Guanidinium chloride	50-01-1	70-80

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information

Notify doctor/physician about the substance to take necessary actions.



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Following eye contact

IF ON EYES: flush the eyes immediately with water for at least 15 minutes. Remove

contact lenses, if present and easy to do. Get immediate medical

advice/attention.

Following skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.

Rinse skin with water/shower.

Get medical advice/attention if you feel unwell. Wash contaminated clothing before reuse.

Following inhalation IF exposed or concerned: Get medical advice/attention.

Following ingestion

Do not use mouth—to—mouth resuscitation if vitim ingested or inhaled. Use proper

respiratory medical device.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Risks No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Special treatment No information available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use powder fire extinguisher, dry sand or dirt.

5.2 Special hazards arising from the substance or mixture

Special hazards arising from the substance or mixture

No information available.

5.3 Precautions for fire-fighters

Special protective equipment for firefighters

Wear appropriate protective apparatus.

Extinguish while maintaining safe distance away from fire areas.

5.4 Further information

No information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions Note the substances and conditions to avoid

6.2 Environmental precautions

Environmental precautions Avoid dispersal of spill material and runoff into waterway, sewers, drainage, or

contained areas.

6.3 Methods and material for containment and cleaning up

Method for 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 as hazardous

material.

6.4 Reference to other sections

For personal protection, see Section 8 of the SDS.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling

Do NOT handle until all safety precautions have been read and understood.

Wash handling area thoroughly after handling.

Take caution in opening the container.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.



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Carefully reseal the opened container and keep container stand to prevent leaking.

Specific end use(s) Laboratory chemicals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No information available. KOSHA exposure limits ACGIH exposure limits No information available. Biological Exposure Indices (BEIs) No information available.

8.2 Exposure controls

Appropriate engineering controls Use appropriate engineering controls such as process enclosure, local exhaust ventilation, or maintaining airborne concentrations below recommended exposure

Emergency eye wash fountains and safety showers should be available in the

immediate vicinity of use/handling.

Personal protective equipment

Respiratory protection Wear suitable protection tested and approved under appropriate government

standards such as KOSHA. Select protective gear according to the physical and

chemical properties of the exposed material.

Suitable eye protection Wear chemical-resistant eye and face protection tested and approved under

appropriate government standards such as KOSHA.

Hand protection Wear suitable gloves tested and approved under appropriate government

standards such as KOSHA. Check gloves before use. Dispose of gloves after use

according to relevant regulations and GLP standards. Wash and dry hands.

Wear suitable chemical-resistant clothing. Choose protective tools according to the concentration and amount of material in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Skin and body protection

9.1 Information on basic physical and chemical properties

Physical state Liquid Color Colorless No odor Odor

No data available. Odor threshold No data available. Melting point/freezing point No data available. Initial boiling point/boiling range No data available.

No data available. Flash point Evaporation rate No data available. Flammability (solid, gas) No data available.

Upper/lower flammability or explosive limits No data available. Vapor pressure

Solubility(ies) No data available. Vapor density No data available.

No data available. Specific gravity Partial coefficient n-octanol/water No data available.

Auto-ignition temperature No data available. Decomposition temperature No data available. No data available. Viscosity

Molecular weight No data available. No data available. Explosive properties

No data available.



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Oxidizing properties

9.2 Other safety information No data available.

No data available.

10. STABILITY AND REACTIVITY

10.2 Chemical stability and possibility of hazardous

reactions

Stable under recommended storage conditions

10.3 Conditions to avoid

Heat, spark, reducing substance.

10.4 Incompatible materials

Strong oxidizing agents, strong bases, strong acids, metals

10.5 Hazardous decomposition products

Guanidinium chloride

Can burn in fire, releasing irritating and toxic gases due to thermal decomposition

or combustion.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available. Oral No data available. Dermal No data available. Inhalation No data available. Skin corrosion/irritation No data available. Serious eye damage/irritation No data available. Respiratory sensitisation No data available. Skin sensitisation

Carcinogenicity

IARC No data available. **OSHA** No data available. No data available. **ACGIH** NTP No data available. **EU CLP** No data available. No data available.

Germ cell mutagenicity

Reproductive toxicity

No data available. STOT (SE) STOT (RE) No data available. No data available. Aspiration hazard

11.2 Routes of exposure

Routes of exposure May cause irritation.

12. ECOLOGICAL INFORMATION

12.1 Toxicity No data available.

12.2 Persistence and degradability

Persistence No data available. Degradability No data available.

12.3 Bioaccumulative potential

Bioaccumulation No data available. Biodegradability No data available. 12.4 Mobility in soil No data available. 12.5 Results of PBT and vPvB assessment No data available.



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12.6 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose in accordance with all applicable environmental laws and regulations.

13.2 Disposal considerations

Dispose of contents/container in accordance with all applicable environmental laws and regulations.

14. TRANSPORT INFORMATION

14.1 UN number

ARD/RID Not regulated as a dangerous good IMDG Not regulated as a dangerous good IATA Not regulated as a dangerous good

14.2 UN proper shipping name

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.3 Transport hazard class(es)

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.4 Packing group

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.5 Environmental hazards

ARD/RID No data available.

IMDG No data available.

IATA No data available.

14.6 Special precautions for users

For personal protection see section 8.

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

15.1Industiral Satefy and Health Act

Not applicable

15.2 Toxic Chemicals Control Act

Not applicable

15.3 Safety Control of Dangerous Substances Act

Not applicable

15.4 Wastes Control Act

Not applicable



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PRODUCT NAME

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15.5 Other requirements in domesitc and other countires

In accordance with international laws and regulations of country.

16. OTHER INFORMATION

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since NIPPON Genetics EUROPE GmbH cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to info@nippongenetics.com

- END OF SAFETY DATA SHEET -



Product Name Buffer ViL

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name Buffer Vil

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

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Name Nippon Genetics Europe GmbH

Address Mariaweilerstraße 28-30; 52349 Dueren, Germany

Information contact Dr. Manuel Franke

E-Mail (competent person) <u>mfranke@nippongenetics.de</u>

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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Acute oral toxicity

Acute dermal toxicity

Acute inhalation toxicity

Skin corrosion/irritation

Category 1

Serious eye damage/eye irritation

Category 1

Chronic aquatic toxicity Category 3

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms



Signal word

Hazard statements

Danger

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do no eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid releast to the environment.

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

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin

with water.

Respose P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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 or

doctor/physician.

P330 Rinse mouth.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

Storage P405 Store locked up.

Disposal P501 Dispose of contents/container in accordance with all applicable environmental lawsand

regulations.

2.3 Other Non-GHS Classfication

The concentration of ingredients with unknown toxicity is no higher than 0.1%.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	CAS No.	Concent- ration (%)
Guanidine Thiocyanate	593-84-0	65 - 75

4. FIRST AID MEASURES

4.1 Description of first aid measures

General informations

Notify doctor/physician about the substance to take necessary actions.

Following eye contact Rinse cautiously with water for at least 15 minutes.

Remove contact lenses. Get medical advice/attention.

Following skin contact

In the case of contact with skin (or hair), remove immediately all contaminated clothing. Rinse skin with

water/shower.

Immediately seek medical advice/attention if you feel unwell.

Wash before reuse.

Following inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Get medical advice/attention if you feel unwell.

Following ingestion If swallowed, rinse mouth, do NOT attempt cardiopulmonary resuscitation.

If exposed, seek medical advice/attention.

Do not use mouth-to-mouth resuscitation if vitim ingested or inhaled.

Use proper respiratory medical device.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Risks No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Special treatment

The medical personnel need to know what the material is and what first aid measures have been

recommended and used.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Dry powder

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting

No data available

5.3 Precautions for fire-fighters

5.4 Further information

No information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection.

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 Environmental precautions

Personal precautions

Avoid dispersal of spill material and run off into waterway, sewers, drainage, or contained areas. Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Method for cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed

containers for disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a dry and well-ventilated place. Do not store near acids. Store in a

well-ventilated place.

7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

No data available

8.3 Personal protective equipment

Respiratory protection

Wear respiratory protection according to the physical and chemical properties of the exposed material tested and approved uner approved under appropriate government standard such as KOSHA.

Suitable eye protection

Wear chemical-resistant eye and face protection chemical safey goggles tested and approved under appropriate government standards such as KOSHA.

Hand protection

Wear suitable gloves tested and approved under appropriate government standards such as KOSHA. Check gloves before use. Dispose of gloves after use according to relevant regulations and GLP

standards. Wash and dry hands.

Skin and body protection

Wear suitable chemical-resistant clothing. Choose according to the concentration and amount of material in the work area.

Wear chemical-protective and non-static shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

liquid Physical state

Colorlessness Color

Odor Odorlesss Odour Threshold No data available
pH No data available

Melting point/freezing point

No data available

Boiling point/boiling range No data available

Flash point No data available

Evaporation rate No data available

Flammability (soild, gas)

No data available

Upper/lower flammability or explosive limits No data available

Vapour pressure No data available

Solubility (ies) No data available

Vapour density No data available

Specific gravity No data available

Partial coefficient n-octanol/water No data available

Auto-ignition temperature No data available

Decomposition temperature No data available

Viscosity No data available

Molecular weight No data available

Explosive properties No data available

Oxidizing properties No data available

9.2 Other information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, spark, reducting substance.

10.5 Materials to avoid

Strong acids, Strong oxidizing agents, Metal, Strong akaline

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

A. Product No data available.

B. Components

LD50 Oral - Rat - 593 mg/kg

LD50 Intraperitoneal - Mouse - 300 mg/kg

No data available. Skin corrosion/irritation

No data available. Serious eye damage/eye irritation

Respiratory sensitisation No data available.

Skin sensitiation No data available.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as probable, **IARC**

possible or confirmed human carcinogen by IARC.

No data available. Germ cell mutagenicity

Reproductive toxicity No data available.

No data available. Oral No data available. Dermal Inhalation No data available.

No data available. Specific target organ toxicity - single exposure

No data available. Specific target organ toxicity - repeated exposure

No data available. Aspiration hazard

12. ECOLOGICAL INFORMATION

12.1 Toxicity

A. Product No data available.

B. Components

EC50 - Daphnia (water flea) - 42.4 mg/l - 48 h **GUANIDINE THIOCYANATE**

12.2 Persistnece and degradability

No data available Persistence Degradability No data available

12.3 Bioaccumulative potential

Bioaccumulation No data available No data available Biodegradability 12.4 Mobility in soil No data available

12.6 Other adverse effects

12.5 Results of PBT and vPvB assessment

A. Product No data available.

B. Components

GUANIDINE THIOCYANATE Harmful to aquatic life with long lasting effects.

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of in accordance with all applicable environmental laws and regulations.

13.2 Disposal considerations

Dispose of in accordance with all applicable environmental laws and regulations.

14. TRANSPORT INFORMATION

ARD/RID/IMDG/IATA

Classified as dangerous in the meaning of transport regulations.

14.1 UN number Not regulated as a dangerous goods.

14.2 UN Proper shipping nameNot regulated as a dangerous good.

14.3 Transport hazard class(es)Not regulated as a dangerous good.

14.4 Packing group Not regulated as a dangerous good.

14.5 Environmental hazardsNot regulated as a dangerous good.

14.6 Special precautions for user

F-A

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

S-B

15. REGULATORY INFORMATION

15.1Industiral Satefy and Health Act

Not applicable

15.2 Toxic Chemicals Control Act

Not applicable

15.3 Safety Control of Dangerous Substances Act

Not applicable

15.4 Wastes Control Act

Not applicable

15.5 Other requirements in domesitc and other countires

In accordance with international laws and regulations of country.

16. OTHER INFORMATION

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since NIPPON Genetics EUROPE GmbH cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to info@nippongenetics.com.

- END OF SAFETY DATA SHEET-



NIPPON Genetics **EUROPE**

Product Name **Buffer ViW1**

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Buffer ViW1 Product name

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

Laboratory chemicals Use of the substance or mixture

1.3 Details of the supplier of the safety data sheet

Name Nippon Genetics Europe GmbH

Mariaweilerstraße 28-30; 52351 Dueren, Germany Address

Information contact Dr. Manuel Franke

mfranke@nippongenetics.de E-Mail (competent person)

02421554960 during office hours: Mo-Fr 8:00 - 17:00

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

Category 4 Acute oral toxicity Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2

Specific target organ systemic toxicity (single

exposure)

Category 3

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms

Signal word

Respose

Warning

Hazard statements

H302 Harmful if swallowed.

H315 Cause skin irritation.

H319 Causes serious eve irritation.

H335 May cause respiratory irritation.

Precautionary statements

Prevention P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash skin/hands thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

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

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a positioncomfortable

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

P332+P313 IF skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

P362 Take off contaminated clothing and wash before reuse.

Storage P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal P501 Dispose of contents/container in accordance with all applicable environmental lawsand

regulations.

2.3 Other Non-GHS Classfication

NFPA SCALE (0-4)

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	CAS No.	Concent- ration (%)
Guanidium chloride	50-01-1	70 ~ 80

4. FIRST AID MEASURES

4.1 Description of first aid measures

General informations

Notify doctor/physician about the substance to take necessary actions.

Following inhalation If exposed to large amounts of dust or fume, remove with clean air. In case of coughing or

other symptoms, get medical advice/attention.

Following skin contact In case of contact with affected area, immediately flush skin or eyes with water for at least 20

miutes.

If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse.

Following eye contact Immediately flush the eyes with water for at least 15 minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.

If eye irritation persists, get medical advice/attention.

Following ingestion

Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Do not use mouth-to-mouth resuscitation if vitim ingested or inhaled. Use proper respiratory

medical device.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Risks Harmful if swallowed.
Causes serious eye damage.
Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

Special treatment No information available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Use powder fire extinguisher, dry sand or dirt.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting No information available.

5.3 Precautions for fire-fighters

Special protective equipment for firefighters

Wear appropriate protective apparatus.

Extinguish while maintaining safe distant

Extinguish while maintaining safe distance away from fire areas.

5.4 Further information

No information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Immediately clean spills and see section 5.3.

Stop leak if safe to do so.

Note the substances and conditions to avoid

6.2 Environmental precautions

Personal precautions

Environmental precautions Avoid dispersal of spill material and runoff into waterway, sewers, drainage, or contained areas.

6.3 Methods and material for containment and cleaning up

Method for 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 as hazardous material.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Do no eat, drink or smoke when using this product.

Empty containers may retain product residue and can be hazardous. Observe all precautionary

measures on SDS and product labels. Take caution in handling and storage. Take caution in opening the container.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in a well-ventilated area. Keep the container tightly sealed.

7.3 Specific end use(s)

Specific end use(s) Laboratory chemicals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

No information available. KOSHA exposure limits No information available. ACGIH exposure limits

Biological Exporsure Indices (BEIs)

No information available.

8.2 Exposure controls

Appropriate engineering controls

Use appropriate engineering contols such as process enclosure, local exhaust ventilation, or maintaining airborne concentrations below recommended exposure limits.

Emergency eye wash fountains and safety showers should be available in the immediatevicinity of use/handling.

Personal protective equipment

Respiratory protection

Suitable eye protection

Skin and body protection

Hand protection

Wear suitable protection tested and approved under appropriate government standardssuch as KOSHA. Select protective gear according to the physical and chemical propertiesof the

exposed material.

Wear chemical-resistant eye and face protection tested and approved under

appropriategovernment standards such as KOSHA.

Wear suitable gloves tested and approved under appropriate government standards such as KOSHA. Check gloves before use. Dispose of gloves after use according to relevantregulations

and GLP standards. Wash and dry hands.

Wear suitable chemical-resistant clothing. Choose according to the concentration and amount

of material in the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

liquid Physical state

Colorless Color

No data available Odor

Odour Threshold No data available

7.0 - 8.0рΗ

Melting point/freezing point	No data available
Boiling point/boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (soild, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Solubility (ies)	No data available
Vapour density	No data available
Specific gravity	No data available
Partial coefficient n-octanol/water	No data available
Auto-ignition temperature	not determined
Decomposition temperature	No data available
Viscosity	No data available
Molecular weight	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other information

No data available

10. STABILITY AND REACTIVITY

10.1 Chemical stability and possibility of hazardous reactions

Stable under recommended storage conditions

10.4 Conditions to avoid

Heat, spark, reducting substance.

10.5 Incompatible materials

Strong oxidizing agents, strong bases, strong acids, metals

10.6 Hazardous decomposition products

Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Oral No data available. Dermal No data available. No data available. Inhalation Skin corrosion/irritation No data available. Serious eye damage/eye irritation No data available. Respiratory sensitisation No data available. Skin sensitiation No data available. Carcinogenicity KOSHA No data available.

Korean Ministry of Employment and Labor No data available. No data available.

OSHA No data available.

ACGIH No data available.

NTP No data available.

EU CLP No data available.

Germ cell mutagenicity No data available.

Reproductive toxicity No data available.

STOT (SE) Produces irritation to the respiratory system.

STOT (RE) No data available.

Aspiration hazard Produces irritation to the respiratory system.

11.2 Routes of exposure

May cause irritation.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

IARC

Toxicity to fish

No data available

Toxicity to Crustacea

No data available

Toxicity to Algae

No data available

12.2 Persistnece and degradability

Persistence No data available

Degradability No data available

12.3 Bioaccumulative potential

Bioaccumulation No data available
Biodegradability No data available

12.4 Mobility in soil No data available

12.5 Results of PBT and vPvB assessment No data available

12.6 Other adverse effects No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of in accordance with all applicable environmental laws and regulations.

13.2 Disposal considerations

Dispose of in accordance with all applicable environmental laws and regulations.

14. TRANSPORT INFORMATION

14.1 UN No.

ARD/RID

Not regulated as a dangerous good

IMDG

Not regulated as a dangerous good

IATA

Not regulated as a dangerous good

14.2 UN Proper shipping name

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.3 Transport hazard class(es)

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.4 Packing group

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.5 Environmental hazards

ARD/RID No data available

IMDG No data available

IATA No data available

14.6 Special precautions for user

For personal protection see section 8.

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The Industrial Safety and Health Law

No data available.

Toxic Chemical Control Act No data available.

Dangerous Material Safety Control Act No data available.

Controlled Hazardous Substances No data available.

Other requirements in domestic and

other countries

In accordance with international laws and regulations of country.

16. OTHER INFORMATION

Issued date

03.04.2020

Revision number

1

Revision date

03.04.2021

Reference

Corporate Solution From Thomson Micromedex ECB-ESIS (European Chemical Substances Information System) ECOTOX Database, EPA IUCLID Chemical Data Sheet International Chemical Safety Cards (ICSC) TOXNET, U.S. National Library of Medicine The Chemical Database, The Department of Chemistry at the University of Akron Industrial poisoning handbook, Shin Kwang Publishing Co.

Hazardous materials information management system, National Emergency Management

Chemicals information system, Ntional Institute of Environmental Research

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Questions about the information found on this MSDS should be directed to info@nippongenetics.com



NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Trade name Buffer ViW2

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

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Name Nippon Genetics Europe GmbH

Address Mariaweilerstraße 28–30; 52349 Dueren, Germany

Information contact Dr. Manuel Franke

E-Mail (competent person) <u>mfranke@nippongenetics.de</u>

02421554960 during office hours: Mo-Fr 8:00 - 17:00

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

This product is NOT classified as regulated substance and NOT subject to label elements.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms

No information available.

Signal word

Hazard statements

No information available.

No information available.

Precautionary statements

Prevention No information available.
Response No information available.
Storage No information available.
Disposal No information available.

2.3 Other hazards

NFPA classification No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name CAS No. Concent-EC No. ration (%)

No hazardous substance.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information Notify doctor/physician about the substance to take necessary actions.

Following eye contact In case of contact with substance, flush the eyes immediately with water for at

least 20 minutes.

Immediately seek medical advice/attention.

Following skin contact

In case of contact with substance, flush the skin immediately with water for at

least 20 minutes.

Remove contaminated clothing and footwear and isolate contaminated areas.

Following inhalation Remove the victim into fresh air.

If experiencing symptoms, get medical advice/attention.

Following ingestion In case of ingestion, rinse mouth. Do NOT induce vomiting.

If exposed or concerned, get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.



NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

Risks No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Special treatment No information available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular

foam, carbon dioxide (suitable extinguishing media)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting Inhalation or vapor or contact with substance may cause contamination and result

in hazardous effects.

Inhalation of substance may be hazardous.

5.3 Precautions for fire-fighters

Special protective equipment for firefighters Wear self-contained breathing apparatus when fighting fire.

Spills may cause contamination.

If safe to do, remove container from fire area.

5.4 Further information

No information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Do NOT handle damaged containers or spill without appropriate protection.

Avoid contact with the eyes, skin, and clothing.

6.2 Environmental precautions

Environmental precautions Do NOT directly release into the environment.

6.3 Methods and material for containment and cleaning up

Method for cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection, see Section 8 of the SDS.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling Avoid prolonged or repeated contact with skin.

Avoid contact with the eyes, skin, and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels Keep the container tightly sealed.

Keep cool. Protect from sunlight.

7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

KOSHA exposure limits

ACGIH exposure limits

No information available.

Biological Exposure Indices (BEIs)

No information available.

8.2 Exposure controls

Appropriate engineering controls

No information available.

Personal protective equipment

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NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

Respiratory protection

Suitable eye protection

Hand protection

Skin and body protection

No information available.

Wear chemical-resistant eye and face protection.

Wear suitable chemical-resistant gloves.

Wear suitable chemical-resistant clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state

Color

Odor

Odor threshold

рΗ

Melting point/freezing point

Initial boiling point/boiling range

Flash point

Evaporation rate

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Vapor pressure Solubility(ies)

Vapor density Specific gravity

Partial coefficient n-octanol/water

Auto-ignition temperature

Decomposition temperature

Viscosity

Molecular weight
Explosive properties

Oxidizing properties

9.2 Other safety information

No data available.

Liquid

Colorless

No data available.

No data available.

7 -8

No data available.

-/-

No data available.

No data available. No data available.

No data available.

No data available.

No data available.

No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity if stored and applied as directed.

Stable at ambient conditions.

10.2 Chemical stability

Non-flammable: this material does not burn but may evolve corrosive/toxic fumes when heated.

10.3 Possibility of hazardous reactions

May evolve corrosive/toxic fumes when heated.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products



NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

No data available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Oral No data available.

Dermal No data available.

Inhalation No data available.

Skin corrosion/irritation No data available.

Serious eye damage/irritation No data available.

Respiratory sensitisation No data available.

Skin sensitisation No data available.

Carcinogenicity

KOSHA No data available. Korean Ministry of Employment and Labor No data available. IARC No data available. **OSHA** No data available. No data available. **ACGIH** NTP No data available. **EU CLP** No data available. No data available. Germ cell mutagenicity No data available. Reproductive toxicity STOT (SE) No data available. No data available. STOT (RE) Aspiration hazard No data available.

11.2 Routes of exposure

No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to Fish

No data available.

Toxicity to Crustacea

No data available.

No data available.

No data available.

12.2 Persistence and degradability

Persistence No data available.

Degradability No data available.

12.3 Bioaccumulative potential

Bioaccumulation No data available.
Biodegradability No data available.

12.4 Mobility in soil No data available.

12.5 Results of PBT and vPvB assessment No data available.

12.6 Other adverse effects No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Dispose of in accordance with all applicable environmental laws and regulations.



NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

13.2 Disposal considerations

Dispose of in accordance with all applicable environmental laws and regulations.

14. TRANSPORT INFORMATION

14.1 UN number

ARD/RID This product is NOT categorized under UN number IMDG This product is NOT categorized under UN number IATA This product is NOT cate

14.2 UN proper shipping name

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.3 Transport hazard class(es)

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.4 Packing group

ARD/RID Not applicable.

IMDG Not applicable.

IATA Not applicable.

14.5 Environmental hazards

ARD/RID No data available.

IMDG No data available.

IATA No data available.

14.6 Special precautions for users

For personal protection see section 8.

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

15.1Industiral Satefy and Health Act

Not applicable

15.2 Toxic Chemicals Control Act

Not applicable

15.3 Safety Control of Dangerous Substances Act

Not applicable

15.4 Wastes Control Act

Not applicable

15.5 Other requirements in domesitc and other countires

In accordance with international laws and regulations of country.

16. OTHER INFORMATION



NIPPON Genetics EUROPE

PRODUCT NAME

Buffer ViW2

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since NIPPON Genetics EUROPE GmbH cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to info@nippongenetics.com

- END OF SAFETY DATA SHEET -



NIPPON Genetics EUROPE

PRODUCT NAME

Nuclease-Free Water

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Trade name Nuclease-Free Water

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

Identified uses Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Name Nippon Genetics Europe GmbH

Address Mariaweilerstraße 28-30; 52349 Dueren, Germany

Information contact Dr. Manuel Franke

E-Mail (competent person) mfranke@nippongenetics.de

02421554960 during office hours: Mo-Fr 8:00 - 17:00

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]

This product is NOT classified as regulated substance and NOT subject to label elements

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

Hazard pictograms

No information available.

Signal word

No information available.

Hazard statements

No information available.

Precautionary statements

Prevention No information available.
Response No information available.
Storage No information available.
Disposal No information available.

2.3 Other hazards

NFPA classification No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name CAS No. Concentration (%)

No hazardous substance.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General information No information available.
Following eye contact No information available.
Following skin contact No information available.

Following inhalation If victim is not breathing, perform cardiopulmonary resuscitation (CPR).

Following ingestion No information available.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Special treatment No information available.



NIPPON Genetics EUROPE

PRODUCT NAME

Nuclease-Free Water

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular

foam, carbon dioxide (suitable extinguishing media)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting

No data available.

5.3 Precautions for fire-fighters

Special protective equipment for firefighters Wear self-contained breathing apparatus when fighting fire.

5.4 Further information

No information available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions No data available.

6.2 Environmental precautions

Environmental precautions No data available.

6.3 Methods and material for containment and cleaning up

Method for cleaning up

Clean up with suitable absorbent (cloth, fleece).

6.4 Reference to other sections

For personal protection, see Section 8 of the SDS.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Precautions for safe handling No data available.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

No special storage required.

7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

KOSHA exposure limits

ACGIH exposure limits

No information available.

No information available.

No information available.

8.2 Exposure controls

Appropriate engineering controls

No information available.

Personal protective equipment

Respiratory protection

Suitable eye protection

No information available.

No information available.

No information available.

Skin and body protection

No information available.

9.1 Information on basic physical and chemical properties

Physical state Liquid
Color Colorless.

Odor No data available.

Odor threshold No data available.

pH 6.0 - 8.0



NIPPON Genetics EUROPE

PRODUCT NAME

Nuclease-Free Water

Melting point/freezing point Initial boiling point/boiling range

No data available. Flash point No data available. Evaporation rate No data available. Flammability (solid, gas) - / -

0 ℃

100 ℃

Upper/lower flammability or explosive limits

No data available. Vapor pressure No data available. Solubility(ies) No data available. Vapor density No data available. Specific gravity No data available. Partial coefficient n-octanol/water No data available. Auto-ignition temperature No data available. Decomposition temperature No data available. Viscosity Molecular weight 18.02 g/mol No data available. Explosive properties No data available. Oxidizing properties

9.2 Other safety information

No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity if stored and applied as directed.

Stable at ambient conditions.

10.2 Chemical stability

No reactivity if stored and applied as directed.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

No data available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Oral No data available. Dermal No data available. Inhalation No data available. Skin corrosion/irritation No data available. Serious eye damage/irritation No data available. Respiratory sensitisation No data available. Skin sensitisation No data available.

Carcinogenicity



NIPPON Genetics EUROPE

PRODUCT NAME Nuclease-Free Water

KOSHA No data available. Korean Ministry of Employment and Labor No data available. **IARC** No data available. **OSHA** No data available. **ACGIH** No data available. NTP No data available. EU CLP No data available. No data available. Germ cell mutagenicity Reproductive toxicity No data available. STOT (SE) No data available. No data available. STOT (RE) No data available. Aspiration hazard

11.2 Routes of exposure

No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to Fish

No data available.

Toxicity to Crustacea

No data available.

No data available.

No data available.

12.2 Persistence and degradability

Persistence No data available.

Degradability No data available.

12.3 Bioaccumulative potential

Bioaccumulation

Biodegradability

No data available.

12.4 Mobility in soil

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

This substance can be disposed of as waste water after neutralization, in accordance with all applicable environmental laws and regulations.

13.2 Disposal considerations

Dispose of in accordance with all applicable environmental laws and regulations.

14. TRANSPORT INFORMATION

14.1 UN number

ARD/RID

This product is NOT categorized under UN number

14.2 UN proper shipping name

ARD/RID No data available.

IMDG No data available.

IATA No data available.

14.3 Transport hazard class(es)



NIPPON Genetics EUROPE

PRODUCT NAME

Nuclease-Free Water

ARD/RID No data available. IMDG No data available. IATA No data available.

14.4 Packing group

ARD/RID No data available.

IMDG No data available.

IATA No data available.

14.5 Environmental hazards

ARD/RID No data available.

IMDG No data available.

IATA No data available.

14.6 Special precautions for users

Emergency Schedule (EmS) – Fire NOT dangerous goods.

Emergency Schedule (EmS) – Spillage NOT dangerous goods.

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION

15.1Industiral Satefy and Health Act

Not applicable

15.2 Toxic Chemicals Control Act

Not applicable

15.3 Safety Control of Dangerous Substances Act

Not applicable

15.4 Wastes Control Act

Not applicable

15.5 Other requirements in domesitc and other countires

In accordance with international laws and regulations of country.

16. OTHER INFORMATION

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since NIPPON Genetics EUROPE GmbH cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

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- END OF SAFETY DATA SHEET -