

## INDEX PAGE

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GENEALL BIOTECHNOLOGY CO., LTD.  
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82-2-407-0779  
[geneall@geneall.com](mailto:geneall@geneall.com)

The following MSDS included following products;

<b>Cat. No</b>	<b>Product description</b>
115-106	Exgene™ Stool DNA sample [mini, 6preps]
115-150	Exgene™ Stool DNA [mini, 50preps]

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer PBS

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

### 1.1 Product identifier

Product name Buffer PBS

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

Use of the substance or mixture Laboratory chemicals

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

Name GENEALL BIOTECHNOLOGY CO., LTD  
Address geneall B/D, 303-7, Dongnam-ro, Songpa-gu, Seoul, Korea  
Information contact <+82-2-407-0096  
E-Mail (competent person) [sales@geneall.com](mailto:sales@geneall.com)  
Emergency Telephone Number <+82-2-407-0096

## 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

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 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.



Respiratory protection	Wear respiratory protection, according to the physical and chemical properties of the exposed material which has been tested and approved under appropriate government standard.
Suitable eye protection	Wear tight-fitting safety glasses and face shields. Wear a shading mask or goggles for eye protection which has been tested and approved under appropriate government standards.
Hand protection	Wear protective gloves which has been tested and approved under appropriate government standards. Check gloves before use. Dispose of gloves after use according to relevant regulations and GLP standards and wash, 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

Physical state	liquid
Color	No data available
Odor	No data available
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 (solid, 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 Chemical stability and possibility of hazardous reactions

Stable under recommended conditions.

### 10.2 Conditions to avoid

No data available

### 10.3 Materials to avoid

No data available

#### 10.4 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	No data available
Germ cell mutagenicity	No data available
Reproductive toxicity	No data available
STOT (SE)	No data available
STOT (RE)	No data available
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
Toxicity to Algae	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

#### 12.5 Results of PBT and vPvB assessment

#### 12.6 Other adverse effects

### 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 number

Not applicable for product as supplied.

**14.2 UN Proper shipping name** Not applicable for product as supplied.

**14.3 Transport hazard class(es)** Not applicable for product as supplied.

**14.4 Packing group** Not applicable for product as supplied.

**14.5 Environmental hazards** Not applicable for product as supplied.

**14.6 Special precautions for user** Not applicable for product as supplied.

**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 Industrial Safety and Health Act** Not applicable for product as supplied.

**15.2 Toxic Chemicals Control Act** Not applicable for product as supplied.

**15.3 Safety Control of Dangerous Substances Act** Not applicable for product as supplied.

**15.4 Wastes Control Act** In accordance with international laws and regulations of country.

**15.5 Other requirements in domestic and other countries** Not applicable for product as supplied.

## 16. OTHER INFORMATION

**Issued date**

2016-05-17

**Revision number**

1

**Revision date**

2025-05-29

**Reference**

Sigma-Aldrich

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- END OF SAFETY DATA SHEET-

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer FL

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

### 1.1 Product identifier

Product name Buffer FL

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

Use of the substance or mixture Laboratory chemicals

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

Name GENEALL BIOTECHNOLOGY CO., LTD  
 Address GeneAll Bldg., 303-7, Dongnam-ro, Songpa-gu, Seoul, 05729, Korea  
 Information contact <+82-2-407-0096  
 E-Mail (competent person) [sales@geneall.com](mailto:sales@geneall.com)  
 Emergency Telephone Number <+82-2-407-0096

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

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

Acute oral toxicity Category 4  
 Acute dermal toxicity Category 4  
 Acute inhalation toxicity Category 4  
 Skin corrosion/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

Danger

Hazard statements

H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H332 Harmful if inhaled.  
 H314 Causes severe skin burns and eye damage.  
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

Respose

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

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

P310 Immediately call a POISON CENTER or doctor/physician.

Storage

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

Disposal

P501 Dispose of contents/container in accordance with all applicable environmental laws and regulations.

### 2.3 Other Non-GHS Classification

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	Mixture		
	Substance name	CAS No.	Concentration (%)
	Guanidine Thiocyanate	593-84-0	1 ~ 5
	Sodium N-Lauroylsarcosinate	137-16-6	15 ~ 25

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

General informations	Immediately remove from exposure. Seek medical attention for burns/eye exposure. Show SDS to physician.
Following eye contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy. Immediate medical attention.
Following skin contact	Remove contaminated clothing. Rinse skin with plenty of water for at least 15 minutes. Seek medical attention.
Following inhalation	Move person to fresh air. Keep at rest. Get medical attention if symptoms occur.
Following ingestion	Rinse mouth. Do NOT induce vomiting. Call poison center/doctor immediately.

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media	Use extinguishing media appropriate to surrounding fire (water spray, foam, CO <sub>2</sub> , dry chemical).
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### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	Thermal decomposition may release toxic/irritating fumes. Avoid contact with acids (toxic gas hazard).
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### 5.3 Precautions for fire-fighters

Special protective equipment for firefighters	Wear SCBA and full protective clothing.
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### 5.4 Further information

No information available.

## 6. ACCIDENTAL RELEASE MEASURES

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

Personal precautions	Evacuate unnecessary personnel. Ventilate area. Wear appropriate PPE (Section 8). Avoid generating dust/aerosols.
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### 6.2 Environmental precautions

Environmental precautions

Prevent from entering drains/waterways.

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

Method for cleaning up

Absorb with inert material (vermiculite, sand), collect for disposal.  
Dispose of as hazardous waste.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Advice on safe handling

Use in a fume hood or well-ventilated area. Avoid contact with skin/eyes. Avoid inhalation of dust/mist.

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

Requirements for storage rooms and vessels

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store locked up.  
Keep away from acids.

### 7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

No data available

### 8.2 Engineering controls

Local exhaust ventilation / fume hood recommended.

### 8.3 Personal protective equipment

Respiratory protection

If ventilation is inadequate or aerosols/dust form, use an approved respirator per local regulations.

Suitable eye protection

Chemical splash goggles and face shield

Hand protection

Chemical-resistant gloves (select based on compatibility; change if contaminated)

Skin and body protection

Lab coat / chemical protective clothing; closed shoes

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state

Liquid

Color

Colorless

Odor

Odorless

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 (solid, 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

Contact with acids liberates very toxic gas (EUH032).

### 10.2 Stability

Stable under recommended storage conditions.

## 11. TOXICOLOGICAL INFORMATION

A. Buffer FL No data available.

B. Composition

GUANIDINE THIOCYANATE

Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Harmful if swallowed. Harmful if absorbed through skin. Causes eye burns.

N-Lauroyl sarcosine, sodium salt

Causes skin burns and eye damage.

### 11.1 Information on toxicological effects

#### Acute toxicity

A. Buffer FL No data available.

B. Composition

GUANIDINE THIOCYANATE

LD50 Oral - Rat - 593 mg/kg

LD50 Intraperitoneal - Mouse - 300 mg/kg

LD50 Oral - rat - male and female - > 5,000 mg/kg

N-Lauroyl sarcosine, sodium salt

LC50 Inhalation - rat - 4 h - 0.05 - 0.5 mg/l

#### Skin corrosion/irritation

A. Buffer FL No data available.

B. Composition

N-Lauroyl sarcosine, sodium salt

Skin - rabbit - Irritating to skin

#### Serious eye damage/eye irritation

No data available.

A. Buffer FL

B. Composition

N-Lauroyl sarcosine, sodium salt

Eyes - rabbit - Risk of serious damage to eyes.

#### Respiratory sensitisation

No data available.

#### Skin sensitiation

No data available.

## Carcinogenicity

<u>IARC</u>	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.
<u>Germ cell mutagenicity</u>	No data available.
<u>Reproductive toxicity</u>	No data available.
<u>Specific target organ toxicity - single exposure</u>	No data available.
<u>Specific target organ toxicity - repeated exposure</u>	No data available.
<u>Aspiration hazard</u>	No data available.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Acute toxicity

A. Buffer FL	No data available.
B. Composition	

#### GUANIDINE THIOCYANATE

EC50 - Daphnia - 42.4 mg/l - 48 h

#### N-Lauroyl sarcosine, sodium salt

semi-static test EC50 - Danio rerio (zebra fish) - 107 mg/l - 96 h  
Immobilization LC50 - Daphnia magna (Water flea) - 29.7 mg/l - 48 h

### 12.2 Persistence and degradability

Persistence No data available

#### Degradability

A. Buffer FL	No data available.
B. Composition	

#### N-Lauroyl sarcosine, sodium salt

Aerobic - Exposure time: 24 d. Result - 82 % - Readily biodegradable.

### 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

A. Buffer FL	No data available.
B. Composition	

#### GUANIDINE THIOCYANATE

Toxicity to aquatic by long-term impact.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Dispose of in accordance with all applicable environmental laws and regulations.  
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### 13.2 Disposal considerations

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

## 14. TRANSPORT INFORMATION

### 14.1 UN number

ARD/RID	Not regulated as dangerous good
IMDG	Not regulated as dangerous good
IATA	Not regulated as 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 Industrial Safety 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 domestic and other countries

In accordance with international laws and regulations of country.

### 16. OTHER INFORMATION

#### Issued date

2016-05-17

#### Revision number

1

#### Revision date

2025-03-06

#### Reference

-

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- END OF SAFETY DATA SHEET-

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer PB

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

### 1.1 Product identifier

Product name Buffer PB

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

Use of the substance or mixture Laboratory chemicals

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

Name GENEALL BIOTECHNOLOGY CO., LTD  
 Address GeneAll Bldg., 303-7, Dongnam-ro, Songpa-gu, Seoul, 05729, Korea  
 Information contact <+82-2-407-0096  
 E-Mail (competent person) [sales@geneall.com](mailto:sales@geneall.com)  
 Emergency Telephone Number <+82-2-407-0096

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

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

Acute toxicity/oral Category 4  
 Acute toxicity/inhalation Category 4  
 Skin corrosion/irritation Category 2  
 Acute aquatic Category 3

### 2.2 Label elements

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

Hazard pictograms



Signal word

Warning

Hazard statements

H302+H332 Harmful if swallowed or if inhaled  
 H315 Causes severe skin irritation  
 H319 Causes severe eye irritation

Precautionary statements

Prevention

P261 Avoid breathing mist/vapours.  
 P264 Wash thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/

Response

P301 + P312 IF SWALLOWED: Call a doctor/physician if you feel unwell.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

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

Storage

P403+P235 Store in a well-ventilated place. Keep at low temperature.

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

P405 Store tightly closed.

Disposal

P501 Dispose of contents/container in accordance with all applicable environmental law regulations.

**2.3 Other Non-GHS Classification**

No data available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture	Mixture		
	Substance name	CAS No.	Concentration (%)
	Guanidinium chloride	50-01-1	45 - 55

**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 several minutes. Remove contact lenses if easy. Continue rinsing; seek medical advice if irritation persists.
Following skin contact	Wash with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention.
Following inhalation	Move to fresh air. If symptoms occur, get medical advice.
Following ingestion	Rinse mouth. Do not induce vomiting. Call poison center/doctor if unwell.

**5. FIRE FIGHTING MEASURES**

**5.1 Extinguishing media**

Suitable extinguishing media	Use extinguishing media appropriate to surrounding fire (water spray, foam, CO <sub>2</sub> , dry powder).
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**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting	May release irritating fumes on heating.
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**5.3 Precautions for fire-fighters**

Special protective equipment for firefighters	SCBA and full protective gear if involved in fire.
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**5.4 Further information**

No information available.

**6. ACCIDENTAL RELEASE MEASURES**

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

Personal precautions	Avoid contact with skin/eyes. Avoid inhalation of mist/aerosol. Use PPE (Section 8).
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**6.2 Environmental precautions**

Environmental precautions	Prevent entry into drains/waterways (possible aquatic hazard)
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**6.3 Methods and material for containment and cleaning up**

Method for cleaning up

Absorb with inert material (vermiculite/sand). Collect into suitable container for disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Advice on safe handling

Use in well-ventilated area. Avoid skin/eye contact. Do not breathe mist.

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

Requirements for storage rooms and vessels

Keep container tightly closed. Store in cool, dry, well-ventilated place.

### 7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Personal protective equipment

Respiratory protection

If ventilation is insufficient or aerosols form, use suitable respirator per local regulations.

Suitable eye protection

Chemical safety goggles.

Hand protection

Chemical-resistant gloves (e.g., nitrile).

Skin and body protection

Lab coat / protective clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Color	No data available
Odor	No data available
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 (solid, 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 Chemical stability and possibility of hazardous reactions

Stable under recommended conditions.

### 10.2 Conditions to avoid

No data available

### 10.3 Materials to avoid

Strong oxidizers, heat, flames, spark, excessive temperature and direct sunlight

### 10.4 Hazardous decomposition products

Hazardous decomposition products formed in case of fire. - Carbon oxide, hydrogen chloride gas, nitrogen oxide (NO<sub>x</sub>)

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity	No data available.
Respiratory sensitisation	No data available.
Skin sensitiation	No data available.
Carcinogenicity	
IARC	Not classified as cancer-causing agents
Germ cell mutagenicity	No data available.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available.

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity	No data available.
12.2 Persistence and degradability	
Persistence	No data available
Degradability	Result: - Not readily biodegradable.
12.3 Bioaccumulative potential	
Bioaccumulation	No data available
Biodegradability	No data available
12.4 Mobility in soil	No data available
12.5 Other adverse effects	Very toxic to aquatic life through long lasting effects.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Due to flammable feature, so special care must be taken when igniting. 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 number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN Proper shipping name

Not dangerous goods

14.3 Transport hazard class(es) Not dangerous goods

14.4 Packing group Not dangerous goods

14.5 Environmental hazards no

14.6 Special precautions for user No data available

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 Industrial Safety and Health Act Not applicable for product as supplied.

15.2 Toxic Chemicals Control Act Not applicable for product as supplied.

15.3 Safety Control of Dangerous Substances Act Not applicable for product as supplied.

15.4 Wastes Control Act In accordance with international laws and regulations of country.

15.5 Other requirements in domestic and other countries Not applicable for product as supplied.

## 16. OTHER INFORMATION

**Issued date**

2016-03-29

**Revision number**

1

**Revision date**

2025-08-13

**Reference**

Sigma-Aldrich

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- END OF SAFETY DATA SHEET-

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer EB

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

### 1.1 Product identifier

Product name Buffer EB

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

Use of the substance or mixture Laboratory chemicals

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

Name GENEALL BIOTECHNOLOGY CO., LTD  
 Address GeneAll Bldg., 303-7, Dongnam-ro, Songpa-gu, Seoul, 05729, Korea  
 Information contact <+82-2-407-0096  
 E-Mail (competent person) [sales@geneall.com](mailto:sales@geneall.com)  
 Emergency Telephone Number <+82-2-407-0096

## 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 data available  
 Signal word No data available  
 Hazardous statements No data available  
 Precautionary statements  
 Prevention No data available  
 Response No data available  
 Storage No data available  
 Disposal No data available

### 2.3 Other Non-GHS Classification

No data 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 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 Move patients into fresh air and help them to get rest.  
 Get medical advice/attention if you feel unwell.  
 If not breathing, give artificial respiration.

# MATERIAL SAFETY DATA SHEET

Product Name	Buffer EB
Following ingestion	If swallowed, rinse mouth, do NOT attempt cardiopulmonary resuscitation. If exposed or concerned, seek medical advice/attention.

## 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.  
Spills may cause contamination.  
If safe to do, remove container from fire area.

### 5.4 Further information

No data 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.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Advice on 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.  
Avoid contact with the eyes, skin, and clothing.

### 7.3 Specific end use(s)

Specific end use(s)

Laboratory chemicals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

KOSHA exposure limits

No data available

ACGIH exposure limits

No data available

Biological Exposure Indices (BEIs)

No data available

### 8.2 Exposure controls

No data available

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer EB

## 8.3 Personal protective equipment

Respiratory protection	No data available
Suitable eye protection	Wear chemical-resistant eye and face protection.
Hand protection	Wear suitable chemical-resistant gloves.
Skin and body protection	Wear suitable chemical-resistant clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	No data available
Odor	No data available
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)	-/-
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

### 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  
 Stable under normal pressure and room temperature condition  
 Non-flammable : this material does not burn but may evolve corrosive/toxic fumes when heated.

### 10.2 Conditions to avoid

No data available

### 10.3 Materials to avoid

No data available

### 10.4 Hazardous decomposition products

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer EB

No data available

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Routes of exposure

No data available

### 11.2 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/eye irritation

No data available.

#### Respiratory sensitisation

No data available.

#### Skin sensitisation

No data available.

#### Carcinogenicity

No data available.

#### Genotoxicity

No data available.

#### Reproductive toxicity

No data available.

#### Specific target organ toxicity - single exposure

No data available.

#### Specific target organ toxicity - repeated exposure

No data available.

#### Other harmful effects

No data available.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Toxicity to Fish

No data available.

#### Toxicity to Crustacean

No data available.

#### Toxicity to Algae

No data available.

### 12.2 Persistence and degradability

#### Persistence

No data available.

#### Degradability

No data available

### 12.3 Bioaccumulative potential

# MATERIAL SAFETY DATA SHEET

Product Name	Buffer EB
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Bioaccumulation

No data available

Biodegradability

No data available

**12.4 Mobility in soil**

No data available

**12.5 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 number**

This product is NOT categorized under UN number

**14.2 UN Proper shipping name**

Not applicable

**14.3 Transport hazard class(es)**

Not applicable

**14.4 Packing group**

Not applicable

**14.5 Environmental hazards**

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 Industrial Safety 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**

In accordance with international laws and regulations of country.

**15.5 Other requirements in domestic and other countries**

Not applicable

## 16. OTHER INFORMATION

**Issued date**

2016-05-17

**Revision number**

2

**Revision date**

2025-10-11

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer EB

**Reference**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- END OF SAFETY DATA SHEET -

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer NW

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

### 1.1 Product identifier

Product name Buffer NW

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

Use of the substance or mixture Laboratory chemicals

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

Name GENEALL BIOTECHNOLOGY CO., LTD  
 Address GeneAll Bldg., 303-7, Dongnam-ro, Songpa-gu, Seoul, 05729, Korea  
 Information contact <+82-2-407-0096  
 E-Mail (competent person) [sales@geneall.com](mailto:sales@geneall.com)  
 Emergency Telephone Number <+82-2-407-0096

## 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 data available  
 Signal word No data available  
 Hazardous statements No data available  
 Precautionary statements  
 Prevention No data available  
 Response No data available  
 Storage No data available  
 Disposal No data available

### 2.3 Other Non-GHS Classification

No data 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 informations 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.

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer NW

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

Symptoms	No data available
Risks	No data available

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

Special treatment	No data available
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## 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)
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### 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.
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### 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.
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### 5.4 Further information

No data 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.
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### 6.2 Environmental precautions

Environmental precautions	Do NOT directly release into the environment.
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### 6.3 Methods and material for containment and cleaning up

Method for cleaning up	Keep in suitable, closed containers for disposal.
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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Advice on safe handling	Avoid prolonged or repeated contact with skin. Avoid contact with the eyes, skin, and clothing.
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### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels	Keep cool. Protect from sunlight. Keep container tightly closed.
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### 7.3 Specific end use(s)

Specific end use(s)	Laboratory chemicals.
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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

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

### 8.2 Exposure controls

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer NW

No data available

## 8.3 Personal protective equipment

Respiratory protection	No data available
Suitable eye protection	Wear chemical-resistant eye and face protection.
Hand protection	Wear suitable chemical-resistant gloves.
Skin and body protection	Wear suitable chemical-resistant clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	colorless
Odor	No data available
Odour Threshold	No data available
pH	7-8
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	-/-
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

### 9.2 Other information

No data available

## 10. STABILITY AND REACTIVITY

### 10.1 Chemical stability and possibility of hazardous reactions

No reactivity if stored and applied as directed.  
 Stable at ambient conditions.  
 Non-flammable : this material does not burn but may evolve corrosive/toxic fumes when heated.

### 10.2 Conditions to avoid

No data available

### 10.3 Materials to avoid

May evolve corrosive/toxic fumes when heated.

### 10.4 Hazardous decomposition products

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer NW

No data available

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Routes of exposure

No data available

### 11.2 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/eye irritation

No data available.

#### Respiratory sensitisation

No data available.

#### Skin sensitisation

No data available.

#### Carcinogenicity

No data available.

#### Genotoxicity

No data available.

#### Reproductive toxicity

No data available.

#### Specific target organ toxicity - single exposure

No data available.

#### Specific target organ toxicity - repeated exposure

No data available.

#### Other harmful effects

No data available.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

#### Toxicity to Fish

No data available.

#### Toxicity to Crustacean

No data available.

#### Toxicity to Algae

No data available.

### 12.2 Persistence and degradability

#### Persistence

No data available.

#### Degradability

No data available

# MATERIAL SAFETY DATA SHEET

Product Name

Buffer NW

## 12.3 Bioaccumulative potential

### Bioaccumulation

No data available

### Biodegradability

No data available

## 12.4 Mobility in soil

No data available

## 12.5 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 number

This product is NOT categorized under UN number

### 14.2 UN Proper shipping name

Not applicable

### 14.3 Transport hazard class(es)

Not applicable

### 14.4 Packing group

Not applicable

### 14.5 Environmental hazards

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 Industrial Safety and Health Act

No data available

### 15.2 Toxic Chemicals Control Act

No data available

### 15.3 Safety Control of Dangerous Substances Act

No data available

### 15.4 Wastes Control Act

In accordance with all applicable wastes management laws and regulations.

### 15.5 Other requirements in domestic and other countries

Not applicable

## 16. OTHER INFORMATION

### Issued date

2016-10-31

### Revision number

# MATERIAL SAFETY DATA SHEET

Product Name	Buffer NW
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2

**Revision date**

2025-02-27

**Reference**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- END OF SAFETY DATA SHEET -