

## Material Safety Data Sheet

### FavorPrep™ Viral DNA/RNA Kit

Cat. No.:	FAVVK 000-1 (4 preps)	FAVVK 001 (50 preps)	FAVVK 001-1 (100 preps)	FAVVK 001-2 (300 preps)
<b>Contents</b>				
VNE Buffer	1.8 ml × 2	35 ml	70 ml	200 ml
Carrier RNA (Lyophilized)	0.04 mg	0.4 mg	0.8 mg	2.2 mg
Wash Buffer 1 (Concentrate)	0.48 ml × 2	12 ml	24 ml	72 ml
Wash Buffer 2 (Concentrate)	1.5 ml	20 ml	20 ml × 2	50 ml × 2
RNase-Free Water	0.5 ml	6 ml	12 ml	20 ml

**Favorgen Biotech Corp.**

Address: Ping-Tung Agricultural Biotechnology Park  
No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126,  
TAIWAN

Phone Number: +886-8-762-1829

technical@favorgen.com

www.favorgen.com

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: VNE Buffer

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

Product form: Laboratory chemical mixture/Lysis Buffer

Relevant identified uses: For research use only, not for diagnostic use.

Uses advised against:

-----

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

Company: Favorgen Biotech Corp.

Address: Ping-Tung Agricultural Biotechnology Park No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126, TAIWAN

Phone Number: +886-8-762-1829

### 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Hazard identification Hazard classes/categories

Acute oral toxicity	Category 4
Skin burns/eye damage	Category 1
Aquatic Chronic	Category 3

GHS hazard pictograms:



GHS05



GHS07

Signal word: **WARNING**

Hazard statement(s)

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

Precautionary statement(s)

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.

### 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS05



GHS07

WARNING

Hazard contents

Guanidinium thiocyanate, 20~50%, CAS-No. 593-84-0

### 2.3 Other hazards

Not applicable

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical:	Guanidinium thiocyanate	CAS No.: 593-84-0
Concentration:	20~50%	
Classification:	H302, Acute oral Tox. 4, H314, Skin Irrit/Eye Irrit. 1, H412, 3	

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

#### In case of skin contact

After skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

#### If in eyes

Rinse cautiously with water for several minutes

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

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H412 - Harmful to aquatic life

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

No data available

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Suitable Extinguishing media: water foam carbon dioxide (CO<sub>2</sub>) dry powder; All extinguishers can be used.

### 5.2 Special hazards arising from the substance or mixture

None

### 5.3 Advice for firefighters

No specific fire or explosion hazard.

### 5.4 Additional Information

---

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Do not breathe vapours/Ensure adequate ventilation/Avoid contact with skin, eyes or clothing/Use personal protection equipment/Regular staff training is necessary.

### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

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

Soak up with inert absorbent material.

### 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

## 7.2 Conditions for safe storage, including any incompatibilities

Keep in a dry, cool, and well-ventilated place.

## 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters: None

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Hazardous components without workplace control parameters

Ingredients: guanidinium thiocyanate

CAS-No.: 593-84-0

### 8.2 Exposure controls

Good ventilation and exhaust system in the workplace, and the floor has drainage and washing facilities, which can resist the erosion of chemicals. Must maintain the highest level of cleanliness in the workplace.

#### Personal protective equipment

**Eye/face protection:** Safety glasses. Used to prevent splash hazards. Government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Recommended to avoid contamination with these hazards.

**Hand protection:** Protective gloves, use for short times chemical resistant latex gloves with code EN 374-3 level 1.

**Respiratory protection:** Not necessary, if the workplace is well-ventilated.

**Personal Hygiene:** Wash hands before breaks and at the end of work. Handle in accordance with good industrial hygiene and safety practice.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: characteristic /pH: 7.0~8.0/Specific gravity: 1.15 g/cm<sup>3</sup>

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Decompositions are not observed during the expiration period under recommended conditions.

### 10.2 Chemical stability

Decompositions are not observed during the expiration period under recommended conditions.

### 10.3 Possibility of hazardous reactions

**Note:** Thiocyanates can develop poisonous gas in contact with strong acids. Keep away from oxidizing agents, and acidic or alkaline.

### 10.4 Conditions to avoid

Not necessary

### 10.5 Incompatible materials

Note: Avoid contact with strong acids or alkaline.

### 10.6 Hazardous decomposition products

Decompositions are not observed during the expiration period under recommended conditions.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Harmful if swallowed

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50 (Rat)
Guanidinium thiocyanate CAS No.: 593-84-0	1,578 mg/kg	2,926 mg/kg	29.26 mg/l Exposure time: 4 h/ vapor

Skin corrosion/irritation

Skin irritation

Serious eye damage/irritation

Causes eye damage

Respiratory or skin sensitization

Not Classified

Germ cell mutagenicity

Not Classified

Carcinogenicity

Not Classified

Reproductive toxicity

Not Classified

Specific target organ toxicity (STOT) – single exposure

Not Classified

Specific target organ toxicity (STOT) – repeated exposure

Not Classified

Aspiration hazard

Not Classified

### 11.2 Information on other hazards

No data available

## Section 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Following information is valid for pure substances.

**Guanidinium thiocyanate**

CAS No.: 593-84-0LC50

Toxicity to fish:

LC50 (Poecilia reticulata (guppy)): 89.1 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 (Daphnia): 42.4 mg/l

Exposure time: 48 h

Toxicity to fish (Chronic toxicity):

NOEC (Poecilia reticulata (guppy)): 25 mg/l

Exposure time: 96 d

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Endocrine disrupting properties

No data available.

### 12.7 Other adverse effects

No additional data available.

## Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA-DGR: No

### 14.6 Special precautions for user

None

### 14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

#### Further information

Not classified as dangerous in transport regulations.

## Section 15. REGULATIONS INFORMATION

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

Look for your country-specific regulations.

### 15.2 Chemical safety assessment

Not necessary

## Section 16. OTHER INFORMATION

### 16.1 List of R, H and P phrases

Full text of H-Statements referred to under sections 2 and 3.

### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for professional/research user.

## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: Carrier RNA (Lyophilized)

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

Product form: Laboratory chemical mixture

Relevant identified uses: For research use only, not for diagnostic use.

Uses advised against:

-----

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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Company: Favorgen Biotech Corp.  
Address: Ping-Tung Agricultural Biotechnology Park No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126, TAIWAN  
Phone Number: +886-8-762-1829

## 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

No hazardous substance as specified in Regulation (EC) No 1272/2008.

### 2.2 Label elements

Does not need labelling as hazardous.

### 2.3 Other hazards

Not applicable

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical: RNA

CAS No: 63231-63-0

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

#### In case of skin contact

After skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

None known

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

In case of doubt or when symptoms of feeling unwell persist, get medical attention.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

All extinguishers can be used.

### 5.2 Special hazards arising from the substance or mixture

None

### 5.3 Advice for firefighters

No specific fire or explosion hazard.

### 5.4 Additional Information

---

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Do not breathe vapours/Ensure adequate ventilation/Avoid contact with skin, eyes or clothing/Use personal protection equipment/Regular staff training is necessary.

### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 6.3 Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust.  
Soak up the dissolved solution with inert absorbent material.

## 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

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

Storage conditions: Tightly closed. Dry. Keep locked up or in an area accessible only to qualified or authorized persons. Store at -20°C.

### 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters: None

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Good ventilation and exhaust system in the workplace, and the floor has drainage and washing facilities, which can resist the erosion of chemicals. Must maintain the highest level of cleanliness in the workplace.

#### Personal protective equipment

**Eye/face protection:** Safety glasses. Used to prevent splash hazards. Government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Recommended to avoid contamination with these hazards.

**Hand protection:** Protective gloves, use for short times chemical resistant latex gloves with code EN 374-3 level 1.

**Respiratory protection:** Not necessary, if the workplace is well-ventilated.

**Personal Hygiene:** Wash hands before breaks and at the end of work. Handle in accordance with good industrial hygiene and safety practice.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: solid/Water solubility: soluble

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No information available

### 10.5 Incompatible materials



# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



No data available

## 10.6 Hazardous decomposition products

No information available

## Section 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity	Not Classified
Skin corrosion/irritation	Not Classified
Serious eye damage/irritation	Not Classified
Respiratory or skin sensitization	Not Classified
Germ cell mutagenicity	Not Classified
Carcinogenicity	Not Classified
Reproductive toxicity	Not Classified
Specific target organ toxicity (STOT) – single exposure	Not Classified
Specific target organ toxicity (STOT) – repeated exposure	Not Classified
Aspiration hazard	Not Classified

### 11.2 Information on other hazards

No data available

## Section 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Endocrine disrupting properties

No data available.

### 12.7 Other adverse effects

No data available.

## Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

## 14.5 Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA-DGR: No

## 14.6 Special precautions for user

None.

## 14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

## Further information

Not classified as dangerous in transport regulations.

## Section 15. REGULATIONS INFORMATION

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

This material safety data sheet complies with the requirements of Regulation (EC) No.1907/2006.

### 15.2 Chemical safety assessment

For this product, a chemical safety assessment was not carried out.

## Section 16. REGULATIONS INFORMATION

### 16.1 List of R, H and P phrases

Full text of H-Statements referred to under sections 2 and 3.

### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for professional/research user.

## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: Wash Buffer 1

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

Product form: Laboratory chemical mixture

Relevant identified uses: For research use only, not for diagnostic use.

Uses advised against:

-----

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

Company: Favorgen Biotech Corp.

Address: Ping-Tung Agricultural Biotechnology Park No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126, TAIWAN

Phone Number: +886-8-762-1829

### 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Hazard identification Hazard classes/categories

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P264	Wash hands thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/ eye protection/ face protection
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
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
P330	Rinse mouth
P332 + P313	If skin irritation occurs: Get medical advice/attention

## 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS07

WARNING

Hazard contents

Guanidine hydrochloride, 36~50%, CAS-No. 50-01-1

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical:	<b>Guanidine hydrochloride</b>	CAS No.: 50-01-1
Concentration:	36~<50%	
Classification:	H302, Acute oral Tox. 4, H315, Skin Irrit. 2, H319, Eye Irrit. 2	

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### If inhaled

After inhalation: fresh air. If breathing stops: mouth-to-mouth breathing or artificial respiration. Oxygen if necessary. Immediately call in physician.

#### In case of skin contact

After skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H412 - Harmful to aquatic life

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

No data available

### Section 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

All extinguishers can be used.

#### 5.2 Special hazards arising from the substance or mixture

None known.

#### 5.3 Advice for firefighters

No specific fire or explosion hazard.

#### 5.4 Additional Information

----

### Section 6. ACCIDENTAL RELEASE MEASURE

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

Do not breathe vapours/Ensure adequate ventilation/Avoid contact with skin, eyes or clothing/Use personal protection equipment/Regular staff training is necessary.

#### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

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

Soak up with inert absorbent material.

#### 6.4 Reference to other sections

---

### Section 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

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

Keep in a dry, cool, and well-ventilated place.

#### 7.3 Specific end use(s)

For research use only.

### Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters: None

Chemical: Guanidine hydrochloride  
NIOSH: not listed  
OSHA: not listed

CAS No.: 50-01-1

#### 8.2 Exposure controls

Good ventilation and exhaust system in the workplace, and the floor has drainage and washing facilities, which can resist the erosion of chemicals. Must maintain the highest level of cleanliness in the workplace.

##### Personal protective equipment

**Eye/face protection:** Safety glasses. Used to prevent splash hazards. Government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Recommended to avoid contamination with these hazards.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



**Hand protection:** Protective gloves, use for short times chemical resistant latex gloves with code EN 374-3 level 1.

**Respiratory protection:** Not necessary, if the workplace is well-ventilated.

**Personal Hygiene:** Wash hands before breaks and at the end of work. Handle in accordance with good industrial hygiene and safety practice.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: odorless/pH: 6.0~7.0

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

No data available

### 10.3 Possibility of hazardous reactions

**Note:** Can form very reactive substances with oxidizing agents

### 10.4 Conditions to avoid

Not necessary

### 10.5 Incompatible materials

**Note:** Avoid contact with strong acids or alkalines.

### 10.6 Hazardous decomposition products

Decompositions are not observed during the expiration period under recommended conditions.

## Section 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

Not Classified

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50 (Rat)
Guanidine hydrochloride CAS No.: 50-01-1	475-907 mg/kg	2000 mg/kg	[4h] 3181-7655 µg/m <sup>3</sup>

#### Skin corrosion/irritation

Skin irritation/Irritating to eyes

#### Serious eye damage/irritation

Not Classified

#### Respiratory or skin sensitization

Not Classified

#### Germ cell mutagenicity

Not Classified

#### Carcinogenicity

Not Classified

#### Reproductive toxicity

Not Classified

#### Specific target organ toxicity (STOT) – single exposure

Not Classified

#### Specific target organ toxicity (STOT) – repeated exposure

Not Classified

#### Aspiration hazard

Not Classified

### 11.2 Information on other hazards

No data available

## Section 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Following information is valid for pure substances.**

Guanidine hydrochloride

CAS No.: 50-01-1

LC50leuciscus idus/96h: 1759 mg/L  
WGK (DE): 1 WGK No.: 0788  
Storage class (VCI): 12

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Endocrine disrupting properties**

No data available.

**12.7 Other adverse effects**

No data available.

**Section 13. DISPOSAL CONSIDERATIONS**

Refer to local regulations.

**13.1 Waste treatment methods**

Dispose of contents/container in accordance with local regulation.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Section 14. TRANSPORT INFORMATION**

**14.1 UN number**

ADR/RID: -

IMDG: -

IATA: -

**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: -

IMDG: -

IATA: -

**14.4 Packaging group**

ADR/RID: -

IMDG: -

IATA: -

**14.5 Environmental hazards**

ADR/RID: No

IMDG Marine pollutant: No

IATA-DGR: No

**14.6 Special precautions for user**

None

**14.7 Maritime transport in bulk according to IMO instruments**

Not Applicable.

**Further information**

Not classified as dangerous in transport regulations.

**Section 15. REGULATIONS INFORMATION**

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

Look for your country-specific regulations.

**15.2 Chemical safety assessment**

Not necessary

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 16. OTHER INFORMATION

### 16.1 List of R, H and P phrases

Full text of H-Statements referred to under sections 2 and 3.

### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for professional/research user.

## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: Wash Buffer 2

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

Product form: Laboratory chemical mixture

Relevant identified uses: For research use only, not for diagnostic use.

Uses advised against:

-----

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

Company: Favorgen Biotech Corp.

Address: Ping-Tung Agricultural Biotechnology Park No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126, TAIWAN

Phone Number: +886-8-762-1829

### 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

No hazardous substance as specified in Regulation (EC) No 1272/2008.

### 2.2 Label elements

Does not need labelling as hazardous.

### 2.3 Other hazards

Not applicable.

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical:	chemicals/mixture < 1%,	no declaration necessary	CAS No.: -----
Concentration:	0.1 - <1%		

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### If inhaled

Supply fresh air.

#### In case of skin contact

Remove contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

Rinse out with plenty of water.

#### If swallowed

Consult a doctor if feeling unwell.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

No information available.

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

No information available.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

All extinguishers can be used.

### 5.2 Special hazards arising from the substance or mixture

None.

### 5.3 Advice for firefighters

No explosion hazard.

### 5.4 Additional Information

---

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Ensure adequate ventilation.

### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

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

Soak up with inert absorbent material.

### 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

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

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

### 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Contains no substances with occupational exposure limit.

### 8.2 Exposure controls

#### Personal protective equipment

**Personal Hygiene:** Wash hands before breaks and at the end of work. Handle in accordance with good industrial hygiene and safety practice.

**Eye/face protection:** Tight sealing safety glasses.

**Hand protection:** Protective gloves.

**Respiratory protection:** Not necessary, if the workplace is well-ventilated.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: odorless/pH: 8.0~8.8



**9.2 Other information**

---

**Section 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

None.

**10.2 Chemical stability**

No data available.

**10.3 Possibility of hazardous reactions**

None.

**10.4 Conditions to avoid**

Not necessary.

**10.5 Incompatible materials**

None.

**10.6 Hazardous decomposition products**

Decompositions are not observed during the expiration period under recommended conditions.

**Section 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

Acute toxicity	Not Classified
Skin corrosion/irritation	Not Classified
Serious eye damage/irritation	Not Classified
Respiratory or skin sensitization	Not Classified
Germ cell mutagenicity	Not Classified
Carcinogenicity	Not Classified
Reproductive toxicity	Not Classified
Specific target organ toxicity (STOT) – single exposure	Not Classified
Specific target organ toxicity (STOT) – repeated exposure	Not Classified
Aspiration hazard	Not Classified

**11.2 Information on other hazards**

No data available.

**Section 12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Contains no substances known to be hazardous to the ecosystem.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Endocrine disrupting properties**

No data available.

**12.7 Other adverse effects**

No data available.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: No

IMDG Marine pollutant: No

IATA-DGR: No

### 14.6 Special precautions for user

None.

### 14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

### Further information

Not classified as dangerous in transport regulations.

## Section 15. REGULATIONS INFORMATION

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

Look for your country-specific regulations.

### 15.2 Chemical safety assessment

Not necessary.

## Section 16. REGULATIONS INFORMATION

### 16.1 List of R, H and P phrases

Full text of H-Statements referred to under sections 2 and 3.

### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for professional/research user.

## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: RNase-Free Water

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

Product form: Laboratory chemical mixture

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Relevant identified uses: For research use only, not for diagnostic use.

Uses advised against:

-----

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

Company: Favorgen Biotech Corp.

Address: Ping-Tung Agricultural Biotechnology Park No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126, TAIWAN

Phone Number: +886-8-762-1829

## 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

No hazardous substance as specified in Regulation (EC) No 1272/2008.

### 2.2 Label elements

Does not need labelling as hazardous.

### 2.3 Other hazards

Not applicable.

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical: chemicals/mixture < 1%, no declaration necessary CAS No.: -----

Concentration: 0.1 - <1%

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

#### If inhaled

Supply fresh air.

#### In case of skin contact

Remove contaminated clothing. Rinse skin with water/shower.

#### In case of eye contact

Rinse out with plenty of water.

#### If swallowed

Consult a doctor if feeling unwell.

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

No information available.

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

No information available.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

All extinguishers can be used.

### 5.2 Special hazards arising from the substance or mixture

None.

### 5.3 Advice for firefighters

No explosion hazard.

### 5.4 Additional Information

---

## Section 6. ACCIDENTAL RELEASE MEASURE

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Ensure adequate ventilation.

## 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

## 6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material.

## 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

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

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

### 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Contains no substances with occupational exposure limit.

### 8.2 Exposure controls

#### Personal protective equipment

**Personal Hygiene:** Wash hands before breaks and at the end of work. Handle in accordance with good industrial hygiene and safety practice.

**Eye/face protection:** Tight sealing safety glasses.

**Hand protection:** Protective gloves.

**Respiratory protection:** Not necessary, if the workplace is well-ventilated.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/ Color: Clear/ Odor: odorless/pH:4~5.5/Specific gravity: 1.0 g/cm<sup>3</sup>

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

None.

### 10.2 Chemical stability

No data available.

### 10.3 Possibility of hazardous reactions

None.

### 10.4 Conditions to avoid

Not necessary.

### 10.5 Incompatible materials

None.

### 10.6 Hazardous decomposition products

Decompositions are not observed during the expiration period under recommended conditions.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity	Not Classified
Skin corrosion/irritation	Not Classified
Serious eye damage/irritation	Not Classified
Respiratory or skin sensitization	Not Classified
Germ cell mutagenicity	Not Classified
Carcinogenicity	Not Classified
Reproductive toxicity	Not Classified
Specific target organ toxicity (STOT) – single exposure	Not Classified
Specific target organ toxicity (STOT) – repeated exposure	Not Classified
Aspiration hazard	Not Classified

### 11.2 Information on other hazards

No data available.

## Section 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Contains no substances known to be hazardous to the ecosystem.

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

No data available.

### 12.7 Other adverse effects

No data available.

## Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

Empty containers should be taken to an approved waste handling site for recycling or disposal.

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

**14.6 Special precautions for user**  
None

**14.7 Maritime transport in bulk according to IMO instruments**  
Not Applicable.

**Further information**  
Not classified as dangerous in transport regulations.

#### Section 15. REGULATIONS INFORMATION

**15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture**  
Look for your country-specific regulations.

**15.2 Chemical safety assessment**  
Not necessary.

#### Section 16. REGULATIONS INFORMATION

**16.1 List of R, H and P phrases**  
Full text of H-Statements referred to under sections 2 and 3.

**16.2 Training Advice**  
Regular safety training.

**16.3 Recommended Restriction on Use**  
Only for professional/research user.