Version: 202505

Material Safety Data Sheet

FavorPrep™ Plant Total RNA Extraction Mini Kit

Cat. No.: / Contents	FAPR1020 (4 preps)	FAPR1023 (50 preps)	FAPR1024 (100 preps)	FAPR1026 (300 preps)
FARB Buffer	1.5 ml × 2	30 ml	60 ml	170 ml
FAPRB Buffer	1.5 ml × 2	30 ml	60 ml	170 ml
Wash Buffer 1	1.5 ml × 2	30 ml	60 ml	170 ml
Wash Buffer 2 (Concentrate)	1.5 ml	20 ml	35 ml	50 ml × 2
RNase-Free Water	0.5 ml	6 ml	6 ml	8 ml × 2

Favorgen Biotech Corp.
Address: Ping-Tung Agricultural Biotechnology Park
No. 8-1, Yuanxi 2nd Road, Ping Tung 908126,
TAIWAN
Phone Number: +886-8-762-1829
technical@favorgen.com
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Section 1. IDENTIFICATION

1.1 Product Identifier
Commercial Product Name: **FARB 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 2nd 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: **DANGER**
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

DANGER

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

2.3 Other hazards
Not applicable

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 (CO2) 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

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: odorless/pH: 4.0~5.0

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.

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
leuciscus 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 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.

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: **FAPRB 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 2nd 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 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
P330	Rinse mouth
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P332 + P313	IF SKIN irritation occurs: Get medical advice/attention.
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

2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol

GHS07

WARNING

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: **Guanidine hydrochloride** CAS No.: 50-01-1
Concentration: 36~50%
Classification: H302, Acute oral Tox. 4
H315, Skin Irritation 2
H319, Eye Irritation 2

Chemical: **Polyoxyethylene sorbitan monolaurate (Tween® 20)** CAS No.: 9005-64-5
Concentration: 1~10%
Classification: No criteria for classification or naming of chemical not required.

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
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 CAS No.: 50-01-1
NIOSH: not listed
OSHA: not listed

Chemical: Polyoxyethylene sorbitan monolaurate CAS No.: 9005-64-5

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: slightly yellow/Odor: odorless/pH: 5.5~6.5

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/m³
Polyoxyethylene sorbitan monolaurate CAS No.: 9005-64-5	No data available	No data available	No data available

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.
Chemical: Guanidine hydrochloride
CAS No.: 50-01-1
LC50leuciscus idus/96h: 1759 mg/L
WGK (DE): 1 WGK No.: 0788
Storage class (VCI): 12

Chemical: Polyoxyethylene sorbitan monolaurate (Tween® 20)
CAS No.: 9005-64-5
WGK (DE): 1
Storage class (VCI): 10-11

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.

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 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 2nd 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 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 protectio
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:	**Guanidine hydrochloride**	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

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 CAS No.: 50-01-1
NIOSH: not listed
OSHA: not listed

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: odorless/pH: 4.0~4.5

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/m³

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.

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 2nd 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

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.

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

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 2nd 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

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Ensure adequate ventilation.

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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^3

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.

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14.4 Packaging group

ADR/RID: -	IMDG: -	IATA: -

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ADR/RID: No	IMDG Marine pollutant: No	IATA-DGR: No

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