

## Material Safety Data Sheet

### **FavorPrep™ Endotoxin-Free Plasmid Extraction Mini Kit**

<b>Cat. No.:</b>	<b>FSPD3020 (4 preps)</b>	<b>FSPD3024 (100 preps)</b>
<b>Contents</b>		
PM1 Buffer	1 ml	25 ml
PM2 Buffer	1 ml	25 ml
PM3 Buffer	1 ml	25 ml
FAER Buffer	1 ml	25 ml
WP Buffer	6 ml	135 ml
Wash Buffer (Concentrate)	1 ml	20 ml
Elution Buffer	0.5 ml	15 ml
RNase A Solution	10 µl	130 µl

**Favorgen Biotech Corp.**

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No. 8-1, Yuanxi 2<sup>nd</sup> Road, Ping Tung 908126,  
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# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: **PM1 Buffer**

### 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:

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### 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**

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**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**

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**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: None**

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: 7.5~8.5

**9.2 Other information**

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**Section 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

None.

**10.2 Chemical stability**

No data available.

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## 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

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

No dangerous goods according to transport regulations

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## 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-DGR: -

## 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: PM2 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:

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### 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



**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

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

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statement(s)

P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash.

### 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS07

WARNING

### 2.3 Other hazards

Not applicable

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical: **Sodium dodecyl sulfate** CAS No.: 151-21-3  
Concentration: 1~5%

Chemical: **Sodium hydroxide** CAS No.: 1310-73-2  
Concentration: 1~1.5%

Always wear recommended Personal Protective Equipment.

## 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

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H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.

- 4.3 Indication of any immediate medical attention and special treatment needed**  
Wear Personal Protective Equipment. If skin irritation occurs: Get medical advice.

## 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**  
Wear self-contained breathing equipment and protective suit.
- 5.4 Additional Information**  
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## 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**  
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## 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: None**
- |                |                               |                    |
|----------------|-------------------------------|--------------------|
| Chemical:      | <b>Sodium dodecyl sulfate</b> | CAS No.: 151-21-3  |
| Concentration: | 1~5%                          |                    |
| Chemical:      | <b>Sodium hydroxide</b>       | CAS No.: 1310-73-2 |
| Concentration: | 1~1.5%                        |                    |

- 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.

# Material Safety Data Sheet

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**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: no data/Odor: odorless/pH: 13/Density: 1.008 g/cm<sup>3</sup>

### 9.2 Other information

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## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stable under normal condition.

### 10.3 Possibility of hazardous reactions

None.

### 10.4 Conditions to avoid

No data available.

### 10.5 Incompatible materials

No dangerous reaction known under normal use.

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

## 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)
Sodium dodecyl sulfate CAS No.: 151-21-3	1,228 mg/kg	200 mg/kg	3,900 mg/m <sup>3</sup>
Sodium hydroxide CAS No.: 1310-73-2	325 mg/kg	1,350 mg/kg	No data available

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

Following information is valid for pure substances.

Sodium dodecyl sulfate

CAS No.: 151-21-3

EC50 Daphnia magna/48h: 1.8 mg/L

Sodium hydroxide

CAS No.: 1310-73-2WGWK (DE): 1



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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

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

## 12.6 Endocrine disrupting properties

No additional 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

No dangerous goods according to transport regulations

### 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-DGR: -

### 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

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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: **PM3 Buffer**

### 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:

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### 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 corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Precautionary statement(s)

P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
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.

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## 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS07

WARNING

## 2.3 Other hazards

Not applicable.

## 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 Irritation 2 H319, Eye Irritation 2	

Chemical:	<b>Acetate acid</b>	CAS No.: 64-19-7
Concentration:	10 - <20%	
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

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

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

No data available.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Exposure to decomposition products may be a hazard to health

### 5.3 Advice for firefighters

Hazardous combustion products: Carbon oxides/Nitrogen oxides (NOx)/Carbon monoxide/Carbon dioxide/  
Unburned hydrocarbons (smoke)/Potassium oxide

### 5.4 Additional Information

Wear self-contained breathing apparatus for firefighting if necessary.

## 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

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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

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## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment./Do not breathe vapors/dust./Avoid contact with skin and eyes./Smoking, eating and drinking should be prohibited in the application area./Dispose of rinse water in accordance with local and national regulations.

### 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:

Ingredients with workplace control parameters

Ingredients:	CAS No.:	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
acetic acid	64-19-7	TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
		ST	15 ppm, 37 mg/m3	NIOSH REL
		TWA	10 ppm	NIOSH REL

### 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: No data available/Odor: characteristic/pH: 4.5/Specific gravity: 1.15 g/cm<sup>3</sup>/Flash point: >160°C

### 9.2 Other information

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## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

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

### 10.3 Possibility of hazardous reactions

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

## 10.4 Conditions to avoid

10.4.1 Hazardous decomposition products formed under fire conditions.

10.4.2 Keep away from oxidizing agents, and acidic or alkaline products.

## 10.5 Incompatible materials

No data available.

## 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	1,120 mg/kg	2000 mg/kg	[4h] 3181-7655 µg/m <sup>3</sup>
Acetic acid CAS No.: 64-19-7	3,310 mg/kg	1,112 mg/kg	11.4 mg/l (4h)

Skin corrosion/irritation

Serious eye damage/irritation

Respiratory or skin sensitization

Specific target organ toxicity (STOT) – single exposure

Specific target organ toxicity (STOT) – repeated exposure

Carcinogenicity

Germ cell mutagenicity

Reproductive toxicity

Aspiration hazard

Skin irritation/Irritating to eyes

May cause irretrievable eye damage

May irritate skin

Not Classified

Not Classified

Not Classified

Not Classified

Not Classified

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: Acetate acid, CAS No.: 64-19-7

Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 1,000 mg/l, Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 300.82 mg/l,

Exposure time: 48 h

### 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 additional data available.

### 12.7 Other adverse effects

No data available.

## Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

### 13.1 Waste treatment methods

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

No dangerous goods according to transport regulations

### 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: **FAER Buffer**

### 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:

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### 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

### 2.2 Classification of the substance or mixture

Hazard identification Hazard classes/categories

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Short-term (acute) aquatic hazard	Category 1
Long-term (chronic) aquatic hazard	Category 1

GHS hazard pictograms:



GHS05



GHS09

Signal word: **Danger**

Hazard statement(s)

H314

Causes skin irritation.

H318

Causes serious eye damage.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P264

Wash skin thoroughly after handling.

P273

Avoid release to the environment.

P280

Wear protective gloves/eye protection/face protection.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P332 + P313

If skin irritation occurs: Get medical advice/attention.

P362 + P364

Take off contaminated clothing and wash it before reuse.

P391

Collect spillage.

P501

Dispose of contents/container to an approved waste disposal plant.

### 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS05



GHS09

DANGER

### 2.3 Other hazards

Not applicable.

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical:

**alpha-[(1,1,3,3-Tetramethylbutyl)phenyl]-  
omega-hydroxypoly(oxy-1,2-ethanediyl)**

CAS No.: 9036-19-5

Concentration:

10~30%

Always wear recommended Personal Protective Equipment.

## Section 4. FIRST AID MEASURES

### 4.1 Description of first-aid measures

**If inhaled**

If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.

**In case of skin contact**

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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## In case of eye contact

Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

## If swallowed

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

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

Causes serious eye irritation.

No information available.

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

Wear Personal Protective Equipment. If skin irritation occurs: Get medical advice.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

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

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

For this substance/mixture no limitations of extinguishing agents are given.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Additional Information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

### 6.2 Environmental precautions

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

section 13.

## 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:

#### Ingredients with workplace control parameters

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.



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## Personal protective equipment

**Eye/face protection:** Safety glasses. Wear face-shield and protective suit for abnormal processing problems. Ensure that eyewash stations and safety showers are close to the workstation location.

**Skin protection:** Choose body protection according to the amount and concentration of the dangerous substance at the workplace. Footwear protecting against chemicals Workers should wear antistatic footwear.

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

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: pink transparent/Odor: odorless

### 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

Heat, flames and sparks.

### 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

LD50 Oral - Rat - 1,900-5,000 mg/kg

Remarks: (External MSDS)

Symptoms: Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

Inhalation: No data available

LD50 Dermal - Rabbit - >3,000 mg/kg

Remarks: (External MSDS)

#### Skin corrosion/irritation

Skin- Rabbit

Result: irritating- 4 h

(OECD Test Guideline 404)

Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol)

#### Serious eye damage/irritation

Eyes - Rabbit

Result: Risk of serious damage to eyes.

(Draize Test)

Risk of corneal clouding.

#### Respiratory or skin sensitization

Sensitisation test: - Human

Result: negative

Remarks: (External MSDS)

Patch test on human volunteers did not demonstrate sensitization properties.

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**Germ cell mutagenicity**

Not Classified

**Carcinogenicity**

Not Classified

**Reproductive toxicity**

Ingestion of excessive amounts by pregnant animals resulted in maternal and fetal toxicity. Did not show teratogenic effects in animal experiments.

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

Acute oral toxicity - Vomiting, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

**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

**Toxicity to fish**

semi-static test LC50 - *Leuciscus idus* (Golden orfe) - 0.26 mg/l - 96 h  
(OECD Test Guideline 203)

Remarks: The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

**Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - *Daphnia magna* (Water flea) - 0.011 mg/l - 48 h

Remarks: (ECOTOX Database)

The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

**Toxicity to algae**

static test EC50 - *Pseudokirchneriella subcapitata* (green algae) - 1.9 mg/l - 96 h

Remarks: (ECHA)

The value is given in analogy to the following substances: 4-(1,1,3,3-tetramethylbutyl)phenol

### 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 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: 3082

IMDG: 3082

IATA-DGR: 3082

### 14.2 UN proper shipping name

ADR/RID: Environmentally hazardous substance, liquid, n.o.s.

IMDG: Environmentally hazardous substance, liquid, n.o.s.

IATA-DGR: Environmentally hazardous substance, liquid, n.o.s.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



(Octylphenol polyethoxyethanol)	(Octylphenol polyethoxyethanol)	(Octylphenol polyethoxyethanol)
<b>14.3 Transport hazard class(es)</b>		
ADR/RID: 9	IMDG: 9	IATA-DGR: 9
<b>14.4 Packaging group</b>		
ADR/RID: III	IMDG: III	IATA-DGR: III
<b>14.5 Environmental hazards</b>		
ADR/RID: yes	IMDG Marine pollutant: yes	IATA-DGR: yes
<b>14.6 Special precautions for user</b>		
None		
<b>14.7 Maritime transport in bulk according to IMO instruments</b>		
Not Applicable.		
<b>Further information</b>		
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: WP Buffer

**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
Flammable liquids	Category 3

GHS hazard pictograms:



GHS02



GHS07

Signal word: **DANGER**

Hazard statement(s)

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation.
H226	Flammable liquid and vapor

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P264	Wash face, hands and any exposed skin thoroughly after handling
P370 + P378	In case of fire: Use dry chemical, CO <sub>2</sub> , water spray or alcohol-resistant foam to extinguish
P501	Dispose of contents/Container to an approved waste disposal plant
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P235	Store in a well-ventilated place. Keep cool

## 2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS02



GHS07

DANGER

## 2.3. Other hazards

No information available

## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical:	<b>Guanidine hydrochloride</b>	CAS No.: 50-01-1
Concentration:	20 - <50%	
Classification:	H302, Acute oral Tox. 4 H315, Skin Irritation 2 H319, Eye Irritation 2	
Chemical:	<b>Isopropyl Alcohol</b>	CAS No.: 67-63-0
Concentration:	15 - <40 %	
Classification:	H319, Eye Irrit. 2 H225, Flam. Liq. 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

Symptoms Burning sensation. Note to physicians Treat symptomatically.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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 Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

Unsuitable Extinguishing Media CAUTION: Use of water spray when fighting fire may be inefficient.

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

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### 5.3 Advice for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### 5.4 Additional Information

Wear self-contained breathing apparatus for firefighting if necessary.

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Evacuate personnel to safe areas.

Do not breathe vapours/ Ensure adequate ventilation/ Avoid contact with skin, eyes or clothing/ Use personal protection equipment/ Regular staff training is necessary. Keep people away from and upwind of spill/leak.

ELIMINATE all ignition sources (no smoking, flares, sparks, or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk-through spilled material.

### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

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

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

### 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

1. Use personal protection equipment.
2. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources.
3. Use grounding and bonding connection when transferring this material to prevent static discharge, fire, or explosion.
4. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment.
5. Keep in an area equipped with sprinklers.
6. Use according to package label instructions.
7. Avoid contact with skin, eyes, or clothing.
8. Do not eat, drink, or smoke when using this product.
9. Take off contaminated clothing and wash before reuse.

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

1. Keep containers tightly closed in a dry, cool, and well-ventilated place.
2. Keep away from heat, sparks, flame, and other sources of ignition (i.e., pilot lights, electric motors and static electricity).
3. Keep in properly labeled containers.
4. Do not store near combustible materials.
5. Keep in an area equipped with sprinklers.
6. Store in accordance with the particular national regulations.
7. Store in accordance with local regulations. Keep out of the reach of children.

### 7.3 Specific end use(s)

For research use only.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Chemical: guanidine hydrochloride

CAS No.: 50-01-1

NIOSH: not listed

OSHA: not listed

Chemical: Isopropyl Alcohol

CAS No.: 67-63-0

ACGIH: TWA (ppm) 200 ppm

ACGIH: STEL (ppm) 400 ppm

NIOSH: REL (TWA) (mg/m<sup>3</sup>) 980 mg/m<sup>3</sup>

NIOSH: REL (TWA) (ppm) 400 ppm

NIOSH: REL (STEL) (mg/m<sup>3</sup>) 1225 mg/m<sup>3</sup>

NIOSH: REL (STEL) (ppm) 500 ppm

### 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/Odor: alcohol/Color: slightly yellow/pH: 4.8~5/Boiling point: boiling range 87°C/Flash point: 26 °C/Specific gravity: 1.15 g/cm<sup>3</sup>

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

### 10.2 Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact, None.

Sensitivity to static discharge, Yes.

### 10.3 Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

### 10.4 Conditions to avoid

Conditions to avoid Heat, flames, and sparks.

### 10.5 Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

### 10.6 Hazardous decomposition products

None known.

## Section 11. TOXICOLOGICAL INFORMATION

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 11.1 Information on toxicological effects

### Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral) 1,158.00 mg/kg

ATEmix (dermal) 4,150.90 mg/kg

ATEmix (inhalation-dust/mist) 161.20 mg/l

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50 (Rat)
Guanidine hydrochloride CAS No.: 50-01-1	1,120 mg/kg	2000 mg/kg	[4h] 3181-7655 µg/m <sup>3</sup>
Isopropyl Alcohol CAS No.: 67-63-0	1870 mg/kg	4059 mg/kg	72600 mg/m <sup>3</sup> , 4 h

### Skin corrosion/irritation

Classification based on data available for ingredients.  
Irritating to skin.

### Serious eye damage/irritation

Classification based on data available for ingredients.  
Causes serious eye irritation.

### Respiratory or skin sensitization

Not Classified

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

Not Classified

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

Not Classified

### Carcinogenicity

Not Classified

### Germ cell mutagenicity

Not Classified

### Reproductive toxicity

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: Isopropyl Alcohol CAS No.: 67-63-0

LC50: =9640mg/L (96h, Pimephales promelas)

LC50: >1400000µg/L (96h, Lepomis macrochirus)

LC50: =11130mg/L (96h, Pimephales promelas)

### 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## No dangerous goods according to transport regulations

### 14.1 UN number

ADR/RID: UN1993

IMDG: UN1993

IATA: UN1993

### 14.2 UN proper shipping name

ADR/RID: Flammable liquid

IMDG: Flammable liquid

IMDG: Flammable liquid

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

### 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

Annex II of MARPOL and the IBC Code

## 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: Wash Buffer

### 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



# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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: 7.5~8.5
- 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 |

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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: Elution Buffer

### 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:

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### 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



**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: 8.0~9.0

### 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: RNase A Solution

### 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: Ribonuclease A from bovine pancreas CAS No.: 9001-99-4

Concentration: -----

## 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.



# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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:

Components with limit values that require monitoring at the workplace: Not required.

### 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/Odor: odorless

### 9.2 Other information

---

## Section 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 10.2 Chemical stability

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

## 10.3 Possibility of hazardous reactions

No data available

## 10.4 Conditions to avoid

No data available

## 10.5 Incompatible materials

Strong oxidizing agents

## 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

This substance 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.

### 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 14. TRANSPORT INFORMATION

No dangerous goods according to transport regulations

### 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-DGR: -

### 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

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.