

Material Safety Data Sheet

FavorPrep™ Fungi/Yeast Genomic DNA Extraction Mini Kit

Cat. No.:	FAFYG 000 (4 preps)	FAFYG 001 (50 preps)	FAFYG 001-1 (100 preps)
Contents			
FA Buffer	5 ml	60 ml	120 ml
FB Buffer	2.7 ml	32 ml	65 ml
TG1 Buffer	2 ml	27 ml	55 ml
TG2 Buffer	2 ml	15 ml	30 ml
W1 Buffer (Concentrate)	1.3 ml	22 ml	44 ml
Wash Buffer (Concentrate)	1 ml	10 ml	20 ml
Elution Buffer	0.5 ml	7 ml	15 ml
Lyticase Solution	250 µl	550 µl × 5	550 µl × 10
Proteinase K (Liquid)	100 µl	1050 µl	1050 µl × 2

Favorgen Biotech Corp.

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

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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: FA 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 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

Nature of decomposition products not known. Not combustible. Ambient fire may liberate hazardous vapors.

5.3 Advice for firefighters

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



No explosion hazard.

5.4 Additional Information

Section 6. ACCIDENTAL RELEASE MEASURE

6.1 Personal precautions, protective equipment, and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

No special precautionary measures necessary.

6.3 Methods and material for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

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: 6.0~8.0

9.2 Other information

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

None.

10.2 Chemical stability

No data available.

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According to Regulation (EC) No 1907/2006



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

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

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

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

Section 14. TRANSPORT INFORMATION

14.1 UN number

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: FB 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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Hazard identification Hazard classes/categories

Skin sensitization

Category 1

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H317 May cause an allergic skin reaction

H402 Harmful to aquatic life

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P272 Contaminated work clothing should not be allowed out of the workplace

P273 Avoid release to the environment

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

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention

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 it before reuse.

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: **2-mercaptoethanol**
Concentration: 0.1-2%

CAS No.: 60-24-2

Chemical: **Sorbitol**
Concentration: 10-<30%

CAS No.: 50-70-4

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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Rinse cautiously with water for several minutes

4.2 Most important symptoms and effects, both acute and delayed

H317 - May cause an allergic skin reaction

H402 - Harmful to aquatic life

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.

5.3 Advice for firefighters

Wear self-contained breathing equipment and protective suit.

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

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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

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

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: characteristic

9.2 Other information

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

Not 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)
2-mercaptoethanol CAS No.: 60-24-2	244 mg/kg	11~224 mg/kg	3,900 mg/m ³

Skin corrosion/irritation

Not Classified

Serious eye damage/irritation

Not Classified

Respiratory or skin sensitization

May cause sensitization by skin contact

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.

2-mercaptoethanol

CAS No.: 60-24-2

EC50 *Desmodesmus subspicatus* /72 h: 12 mg/L

EC50 *Daphnia magna*/48h: 1.52 mg/L

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: **TG1 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: Favourgen 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

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 it before reuse.

2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS07

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



WARNING

2.3 Other hazards

Not applicable

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances or 3.2 Mixtures

Chemical: **Sodium dodecyl sulfate**
Concentration: 1~5%

CAS No.: 151-21-3

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

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

5.3 Advice for firefighters

Wear self-contained breathing equipment and protective suit.

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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: Sodium dodecyl sulfate
Concentration: 1~5%

CAS No.: 151-21-3

8.2 Exposure controls

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

Personal protective equipment

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

Skin protection: Recommended to avoid contamination with these hazards.

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

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

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

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: characteristic /pH: 8.0~8.6

9.2 Other information

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

Not dangerous reaction known under normal use.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

Section 11. TOXICOLOGICAL INFORMATION

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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 ³

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

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: -

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

Further information

Not classified as dangerous in transport regulations.

Section 15. REGULATIONS INFORMATION

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

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: TG2 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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Hazard identification Hazard classes/categories

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

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

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

Precautionary statement(s)

P264	Wash hands thoroughly after handling
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

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:	10 - <33 %	
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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: 3.4~5.6/Specific gravity: 1.15 g/cm³

9.2 Other information

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

No data available.

10.3 Possibility of hazardous reactions

Note: Can form very reactive substances with oxidizing agents.

10.4 Conditions to avoid

Not necessary.

10.5 Incompatible materials

Note: Avoid contact with strong acids or alkalines.

10.6 Hazardous decomposition products

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

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Not Classified

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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: W1 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 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
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302 + P352	IF ON SKIN: Wash with plenty of soap and water

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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, 20~50%, 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:	20 - <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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: 6.0~7.0

9.2 Other information

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



No data available.

10.3 Possibility of hazardous reactions

Note: Can form very reactive substances with oxidizing agents.

10.4 Conditions to avoid

Not necessary.

10.5 Incompatible materials

Note: Avoid contact with strong acids or alkalines.

10.6 Hazardous decomposition products

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

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Not Classified

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

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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Section 13. DISPOSAL CONSIDERATIONS

Refer to local regulations.

13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

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

Section 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

Further information

Not classified as dangerous in transport regulations.

Section 15. REGULATIONS INFORMATION

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

Look for your country-specific regulations.

15.2 Chemical safety assessment

Not necessary.

Section 16. 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

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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: 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:

1.3 Details of the supplier of the safety data sheet

Company: Favourgen 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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: 8.0~9.0

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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: Lyticase Solution

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

Skin sensitization	Category 1
--------------------	------------

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H317	May cause an allergic skin reaction
H402	Harmful to aquatic life

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P272	Contaminated work clothing should not be allowed out of the workplace
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention
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 it before reuse.

2.2 Label elements

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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:	Lyticase	CAS No.: 37340-57-1
Concentration:	0.1-<5%	
Chemical:	2-mercaptoethanol	CAS No.: 60-24-2
Concentration:	0.1-2%	
Chemical:	Sorbitol	CAS No.: 50-70-4
Concentration:	10-<30%	

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

H317 - May cause an allergic skin reaction

H402 - Harmful to aquatic life

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.

5.3 Advice for firefighters

Wear self-contained breathing equipment and protective suit.

5.4 Additional Information

Section 6. ACCIDENTAL RELEASE MEASURE

6.1 Personal precautions, protective equipment, and emergency procedures

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

8.2 Exposure controls

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

Personal protective equipment

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

Skin protection: Recommended to avoid contamination with these hazards.

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

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

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

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: liquid/Color: clear/Odor: characteristic

9.2 Other information

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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



10.5 Incompatible materials

Not 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)
2-mercaptoethanol CAS No.: 60-24-2	244 mg/kg	11~224 mg/kg	3,900 mg/m ³

Skin corrosion/irritation

Not Classified

Serious eye damage/irritation

Not Classified

Respiratory or skin sensitization

May cause sensitization by skin contact

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.

2-mercaptoethanol

CAS No.: 60-24-2

EC50 *Desmodesmus subspicatus* /72 h: 12 mg/L

EC50 *Daphnia magna*/48h: 1.52 mg/L

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.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Section 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

14.6 Special precautions for user

None

14.7 Maritime transport in bulk according to IMO instruments

Not Applicable.

Further information

Not classified as dangerous in transport regulations.

Section 15. REGULATIONS INFORMATION

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

Look for your country-specific regulations.

15.2 Chemical safety assessment

Not necessary

Section 16. OTHER INFORMATION

16.1 List of R, H and P phrases

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

16.2 Training Advice

Regular safety training.

16.3 Recommended Restriction on Use

Only for professional/research user.

Section 1. IDENTIFICATION

1.1 Product Identifier

Commercial Product Name: **Proteinase K (Liquid)**

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

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

Resp. Sens.	Category 1
Sensitization/skin	Category 1

GHS hazard pictograms:



GHS08

Signal word: **DANGER**

Hazard statement(s)

H317

May cause an allergic skin reaction.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s)

P101

If medical advice is needed, have product container or label at hand.

P102

Keep out of reach of children.

P103

Read label before use.

P261

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

P280

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

P284

[In case of inadequate ventilation] wear respiratory protection.

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342+P311

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental Hazard Statements

None

2.2 Label elements

According to section 1.5.2 of Annex I to CLP

GHS symbol



GHS08

DANGER

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:

Proteinase K

CAS No.: 39450-01-6

Concentration:

1- ≤2.5%

Classification:

H334, Resp. Sens. 1,
H315, Skin Irrit. 2,
H317, Skin Sens.1
H319, Eye Irrit. 2
H335, STOT SE 3

Section 4. FIRST AID MEASURES

4.1 Description of first-aid measures

If inhaled

After inhalation: Supply fresh air; consult doctor in case of complaints.

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



In case of skin contact

After skin contact: Immediately wash with water and soap and rinse thoroughly. Seek medical treatment.

In case of eye contact

After eye contact: Rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses. Call a doctor immediately.

If swallowed

After swallowing: Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

Ensure adequate ventilation.
Soak up the dissolved solution with inert absorbent material.

6.4 Reference to other sections

Section 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Tightly closed. Dry. Keep locked up or in an area accessible only to qualified or authorized persons.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: None

Ingredients with workplace control parameters.

8.2 Exposure controls

Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: Colorless/Odor: Odorless/pH: 7.5

9.2 Other information

Section 10. STABILITY AND REACTIVITY

10.1 Reactivity

No further relevant information available.

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 information available.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5.

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Not Classified

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not Classified

Carcinogenicity

Based on available data, the classification criteria are not met.

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

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

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

15.2 Chemical safety assessment

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

Section 16. 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.