

## Material Safety Data Sheet

### FavorPrep™ Food DNA Extraction Kit I

<b>Cat. No.:</b>	<b>FDK 1004 (4 preps)</b>	<b>FDK 1050 (50 preps)</b>
<b>Contents</b>		
Lysis Buffer	42 ml	250 ml × 3
Binding Buffer	5 ml	60 ml
Wash Buffer (Concentrate)	1 ml	15 ml
Elution Buffer	1 ml	15 ml
Proteinase K (Liquid)	450 µl	1050 µl × 5

**Favorgen Biotech Corp.**

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

Phone Number: +886-8-762-1829

technical@favorgen.com

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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: Lysis 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

### 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

Serious eye damage/eye irritation

Category 2

GHS hazard pictograms:



GHS07

Signal word: **WARNING**

Hazard statement(s)

H319

Causes serious eye irritation.

Precautionary statement(s)

P264

Wash hands thoroughly after handling.

P280

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

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313

If eye irritation persists: 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:

**Cetyltrimethylammonium Bromide**

CAS No.: 57-09-0

Concentration:

1- <3.5%

Classification:

H319, Eye Irritation 2

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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

No data 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

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

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

### 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters: None

Ingredients with limit values that require monitoring at the workplace: The product does not contain any

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** The lists valid during the making were used as basis.

## 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: colorless/Odor: characteristic/Vapor pressure at 20°C (68°F): 23 hPa (17.3 mm Hg)/Density at 20°C (68°F): ~1 g/cm<sup>3</sup> (~8.345 lbs/gal)/Solvent content: Water: 87.9%

### 9.2 Other information

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## 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)
Cetyltrimethylammonium Bromide CAS No.: 57-09-0	20,500 mg/kg	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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



**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 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. 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: Binding 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 Name Address, and Telephone of the Responsible Party

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 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
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# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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.

### 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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

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## 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)

Risk management methods [RMM] The information required is contained in this Safety Data Sheet.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Chemical: guanidine hydrochloride  
NIOSH: not listed  
OSHA: not listed

CAS No.: 50-01-1

Chemical: Isopropyl Alcohol  
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

CAS No.: 67-63-0

### 8.2 Exposure controls

Good ventilation and exhaust system in the workplace, and the floor has drainage and washing facilities, which



# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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: 5.0~6.5/Boiling point: boiling range 87°C/Flash point: 26°C/Specific gravity: 1.15 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

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

### 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

#### Germ cell mutagenicity

Not Classified

#### Carcinogenicity

Not Classified

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



<b>Reproductive toxicity</b>	Not Classified
<b>Specific target organ toxicity (STOT) – single exposure</b>	Not Classified
<b>Specific target organ toxicity (STOT) – repeated exposure</b>	Not Classified
<b>Aspiration hazard</b>	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 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.

Other information

Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14. TRANSPORT INFORMATION

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, n.o.s.

IMDG: Flammable liquid, n.o.s.

IMDG: Flammable liquid, n.o.s.

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

### 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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:

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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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances or 3.2 Mixtures

Chemical: 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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

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## 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.

# 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

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

# 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: 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

### 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



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

No information available.

## Section 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

All extinguishers can be used.

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

None.

### 5.3 Advice for firefighters

No explosion hazard.

### 5.4 Additional Information

---

## Section 6. ACCIDENTAL RELEASE MEASURE

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

Ensure adequate ventilation.

### 6.2 Environmental precautions

Do not allow mixture to enter ground water system.

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

Soak up with inert absorbent material.

### 6.4 Reference to other sections

---

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Always wear recommended Personal Protective Equipment.

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

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

### 7.3 Specific end use(s)

For research use only.

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters:

Contains no substances with occupational exposure limit.

### 8.2 Exposure controls

#### Personal protective equipment

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

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

**Hand protection:** Protective gloves.

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

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance: liquid/ Color: Clear/ Odor: odorless/ pH: 8.0~9.0

### 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Refer to local regulations.

## 13.1 Waste treatment methods

Dispose of contents/container in accordance with local regulation.

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

## Section 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: -

IMDG: -

IATA: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IMDG: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

### 14.6 Special precautions for user

None

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

Not Applicable.

### Further information

Not classified as dangerous in transport regulations.

## Section 15. REGULATIONS INFORMATION

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

Look for your country-specific regulations.

### 15.2 Chemical safety assessment

Not necessary.

## Section 16. REGULATIONS INFORMATION

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

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

### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for professional/research user.

## Section 1. IDENTIFICATION

### 1.1 Product Identifier

Commercial Product Name: 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.

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



Uses advised against:

-----

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

Company: FAVORGEN Biotech Corp.

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

Phone Number: +886-8-762-1829

## 1.4 Emergency telephone number

+886-8-762-1829

## Section 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Hazard identification Hazard classes/categories

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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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.

#### 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

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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

Ensure adequate ventilation.

Soak up the dissolved solution 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

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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 8.1 Control parameters: None

Ingredients with workplace control parameters.

## 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: 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

# Material Safety Data Sheet

According to Regulation (EC) No 1907/2006



## 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.