

## SECTION 1 – IDENTIFICATION

### 1.1 Product Identifier:

Product No: KIT-9021-50  
Product Name: PrimeWay Total RNA Extraction Kit, 50 preps

#### Other means of identification:

See section 3 or

A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

*1x 50 mL TR Buffer  
1x 70 mL Wash Buffer R1  
1x 12 mL Wash Buffer R2  
1x 10 mL RNase-Free Water  
1x 275 µL DNase I (2U/µL)  
2x 1.25 mL DNase I Buffer*

### 1.2 Recommended use of the chemical and restrictions on use:

To extract total RNA from bacteria, yeast, cultured cell, animal tissues, insect, white blood cells and plant.

For R&D use only. Not for pharmaceutical, household, or other uses.

### 1.3 Supplier Information:

**Axil Scientific Pte Ltd**  
2 Tukang Innovation Grove,  
06-01 JTC MedTech Hub,  
Singapore 618305

Tel: +65 6775 7318

Email: [custcare@axilscientific.com](mailto:custcare@axilscientific.com)

**Apical Scientific Sdn Bhd**  
No 7-1 to 7-4, Jalan SP 2/7  
Taman Serdang Perdana, Seksyen 2  
Seri Kembangan 43300

Selangor Darul Ehsan, Malaysia

Tel: +603 8943 3252

Fax: +603 8943 3243

Email: [custcare@apicalscientific.com](mailto:custcare@apicalscientific.com)

### 1.4 Emergency phone number:

Monday – Friday, (UTC +8:00) 8:00 a.m. to 6:00 p.m.

+65 6775 7318 (Singapore)

+603 8943 3252 (Malaysia & Other Countries)

## SECTION 2 – HAZARDS IDENTIFICATION

### 2.0 GHS Classification of Complete Product



Signal word

DANGER

#### Hazard Identification

H302

H315

H317

H319

H332

#### Hazard Classification; Hazard Statement

Acute Tox. 4 oral; Harmful if swallowed.

Skin Irrit. 2; Causes skin irritation.

Skin Sens. 1; May cause an allergic skin reaction

Eye Irrit. 2; Causes eye irritation.

Acute Tox 4; Harmful if inhaled.

## 2.1 GHS Classification of the Substance or Mixture

### 50 mL TR Buffer



Signal word

WARNING

**Hazard Identification**

H302  
H315  
H319  
H332

**Hazard Classification; Hazard Statement**

Acute Tox 4; Harmful if swallowed.  
Skin Irrit. 2; Causes skin irritation.  
Eye Irrit. 2; Causes serious eye irritation.  
Acute Tox 4; Harmful if inhaled.

### 70 mL Wash Buffer R1



Signal word

WARNING

**Hazard Identification**

H302  
H315  
H319  
H332

**Hazard Classification; Hazard Statement**

Acute Tox 4; Harmful if swallowed.  
Skin Irrit. 2; Causes skin irritation.  
Eye Irrit. 2; Causes serious eye irritation.  
Acute Tox 4; Harmful if inhaled.

### 12 mL Wash Buffer R2

Do not need labelling as hazardous

Signal word

-

No hazard class

### 10 mL RNase-Free Water

Do not need labelling as hazardous

Signal word

-

No hazard class

### 275 µL DNase I



Signal word

DANGER

**Hazard Identification**

H302  
H315  
H317

**Hazard Classification; Hazard Statement**

Acute Tox. 4; Harmful if swallowed.  
Skin Irrit. 2; Causes skin irritation.  
Skin Sens. 1; May cause allergic skin reaction.

H319

Eye Irrit. 2; Causes serious eye irritation.

**1.25 mL DNase I Buffer**



Signal word

DANGER

**Hazard Identification**

H302

H315

H319

**Hazard Classification; Hazard Statement**

Acute Tox. 4; Harmful if swallowed.

Skin Irrit. 2; Causes skin irritation.

Eye Irrit. 2; Causes serious eye irritation.

**2.2 Label Elements, including precautionary statements**

**50 mL TR Buffer**



Signal word: WARNING

**70 mL Wash Buffer R1**



Signal word: WARNING

**12 mL Wash Buffer R2**

Do not need labelling as hazardous.

Signal word: -

**10 mL RNase-Free Water**

Do not need labelling as hazardous.

Signal word: -

**275 µL DNase I**



Signal word: WARNING

**1.25 mL DNase I Reaction Buffer**



Signal word: WARNING

**Precautionary statement(s): -**

**Prevention**

- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P284 Wear respiratory protection.

**Response**

- P302 + P352 If on skin: Wash with plenty of soap and water.
- P304 + P340 IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- P321 Call a POISON CENTER or doctor/ physician.
- P330 IF SWALLOWED: Rinse mouth.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P501 Dispose of contents/container to comply with local, state and federal regulations

**2.3 Other hazards**

**Possible hazards from physicochemical properties**

In the case of pH values are less than 5 or higher than 9 then it is irritant.

**Information pertaining to particular risks to human and possible symptoms**

Cause after oral intake, impairments of health when ingested in small quantities. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Kit contains small amounts of enzymes, which may cause sensitization by direct and repeated contact.

**Information pertaining to particular risks to the environment**

No data available.

**Other hazards**

No additional data available.

**SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS THAT CONTRIBUTING TO HAZARD**

**3.1 Substances or 3.2 Mixtures**

**50 mL TR Buffer**

Chemical:	Guanidine Hydrochloride	CAS No.:	50-01-1
GHS Classification:	H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2; H332, Acute Tox. 4, inh.		
Formula:	CH <sub>6</sub> CIN <sub>3</sub>		
Pseudonym:	Guanidinium Chloride		
EC No.:	200-002-3		
Concentration:	30~40%		

**70 mL Wash Buffer R1**

Chemical:	Guanidine Hydrochloride	CAS No.:	50-01-1
GHS Classification:	H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2; H332, Acute Tox. 4, inh.		
Formula:	CH <sub>6</sub> CIN <sub>3</sub>		
Pseudonym:	Guanidinium Chloride		
EC No.:	200-002-3		
Concentration:	50~70%		

### 12 mL Wash Buffer R2

No component or ingredient is contributing to hazard.

### 10 mL RNase-Free Water

No component or ingredient is contributing to hazard.

### 275 µL DNase I

Chemical: DNase I CAS No.: 9003-98-9  
GHS Classification: H317, Skin Sens. 1  
Formula: N/A  
Pseudonym: Deoxyribonuclease  
EC No.: 232-667-0  
Concentration: 40%

### 1.25 mL DNase I Buffer

Chemical: Tris-HCl CAS No.: 1185-53-1  
GHS Classification: H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2.  
EC No.: 214-684-5  
Concentration: ≤ 10%

Chemical: Calcium Chloride CAS No.: 10043-52-4  
GHS Classification: H319, Eye Irrit. 2  
Formula: CaCl<sub>2</sub>  
Pseudonym: Calcium(II) Chloride, Calcium Dichloride  
EC No.: 233-140-8  
Concentration: < 0.1%

### 3.3 Remarks

Components of mixture that are not listed are not hazardous to health or the environment within the meaning of GHS, and/or are present below their cut-off levels.

## SECTION 4 – FIRST-AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### Eye Contact

Rinse cautiously with plenty of water. Remove contact lenses. Continue rinsing for at least 15 minutes and consult a physician.

#### Skin Contact

Rinse skin with soap and plenty of water. Remove contaminated clothing/ shoes and consult a physician.

#### Inhalation

Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

#### Ingestion

After oral intake, lots of water should be drunk after it has been ingested. If you feel unwell, seek medical advice.

### 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 2.3) 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**  
**Suitable extinguishing media**  
Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
- 5.2 Special Exposure Hazards**  
Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)
- 5.3 Special Fire-fighting Procedures**  
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- 5.4 Further Information**  
The product itself does not burn.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment, and emergency procedures**  
Regular staff training is necessary, indicating hazards and precautions about the basis of operating instructions. Restrictions on activity must be observed. Wear protective gloves, protective clothing, and eye/face protection. Observe general safety guidelines for protection; avoid eye and skin contact.
- 6.2 Environmental precautions**  
Contain spill to prevent migration. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of contents/container in accordance with local regulations.
- 6.3 Methods and material for containment and cleaning up**  
Bind any escaping liquid with inert absorbent or liquid-binding material. And dispose chemicals or excess reagents in accordance to local regulations for hazardous chemicals. Clean any contaminated equipment and floors with plenty of water. Collect small amounts of leaked liquid and flush with water into drains.
- 6.4 Reference to other sections**  
Nil.

## SECTION 7 – HANDLING AND STORAGE

- 7.1 Precautions for safe handling**  
Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.
- 7.2 Conditions for safe storage, including any incompatibilities.**  
The original product package allows a safe storage. To maintain product quality, store according to the instructions in the product labelling.
- 7.2.1 Requirements for stock rooms and containers**  
Keep original product packages tightly closed during handling and storage.
- 7.3 Specific end use(s)**  
Product for research use.

## SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

### 8.1 Control parameters

#### 50 mL TR Buffer

This component is not known to contain any substances with occupational exposure limit values.

#### 70 mL Wash Buffer R1

This component is not known to contain any substances with occupational exposure limit values.

#### 12 mL Wash Buffer R2

This component is not known to contain any substances with occupational exposure limit values.

#### 10 mL RNase-Free Water

This component is not known to contain any substances with occupational exposure limit values.

#### 275 µL DNase I

This component is not known to contain any substances with occupational exposure limit values.

#### 1.25 mL DNase I Buffer

This component is not known to contain any substances with occupational exposure limit values.

### 8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. High level of cleanliness shall be maintained at the workplace.

#### 8.2.1 Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts is desired, use type N95 (US) or type P1 (EN 143) dust masks.

#### 8.2.2 Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves must satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### 8.2.3 Eye/ face protection

Use safety glasses. Where contact with the eyes is likely, use chemical safety goggles.

#### 8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

#### 8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes, and clothing. Rinse any clothing on which the substance has been spilled and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

**50 mL TR Buffer**

Appearance: Liquid  
pH: 4.5 (Neat, 25°C)

Colour: Colourless  
Specific gravity: 1.168 g/cm<sup>3</sup>

Odour: Characteristic

**70 mL Wash Buffer R1**

Appearance: Liquid  
pH: 4.5 (Neat, 25°C)

Colour: Colourless  
Specific gravity: 1.168 g/cm<sup>3</sup>

Odour: Characteristic

**12 mL Wash Buffer R2**

Appearance: Liquid  
pH: Not available

Colour: Colourless  
Specific gravity: No data available

Odour: Not available

**10 mL RNase-Free Water**

Appearance: Liquid  
pH: 8.0 – 9.0 (Neat, 25 °C)

Colour: Colourless  
Specific gravity: No data available

Odour: Odourless

**275 µL DNase I**

Appearance: Liquid  
pH: 7.5 – 8.5 (Neat, 20 °C)

Colour: Colourless  
Specific gravity: No data available

Odour: Odourless

**1.25 mL DNase I Buffer**

Appearance: Liquid  
pH: 7.5 – 8.5 (Neat, 20 °C)

Colour: Colourless  
Specific gravity: No data available

Odour: Odourless

**9.2 Other information**

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.

**9.3 Relevant Properties of Substance Group**

No data available.

## SECTION 10 – STABILITY AND REACTIVITY

**10.1 Reactivity**

Stable under normal conditions.

**10.2 Chemical stability**

Store according to the recommended temperature on the container label.

**10.3 Possibility of hazardous reactions**

Hazardous reaction has not been reported.

**10.4 Conditions to avoid**

Strong heat, direct sunlight, strong oxidizers, and strong reducers.

**10.5 Incompatible materials**

Avoid contact with strong acids or alkaline.

**10.6 Hazardous decomposition products**

In the original package, all parts/ all reagents are safely and separately stored. Decompositions are not observed during the expiration period under recommended conditions.

## SECTION 11 – TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Mixture**



## Acute toxicity

### 50 mL TR Buffer

Harmful if swallowed or inhaled.

Acute oral toxicity estimate - 1,922 mg/kg

Acute Inhalation toxicity estimate - 4 h - 18.88 mg/l – vapor

### 70 mL Wash Buffer R1

Harmful if swallowed or inhaled.

Acute oral toxicity estimate - 1,922 mg/kg

Acute Inhalation toxicity estimate - 4 h - 18.88 mg/l – vapor

### 275 µL DNase I

Harmful if swallowed.

### 1.25 mL DNase I Buffer

Harmful if swallowed.

## Skin corrosion/irritation

### 50 mL TR Buffer

Mixture causes skin irritation.

### 70 mL Wash Buffer R1

Mixture causes skin irritation.

### 275 µL DNase I

Mixture causes skin irritation.

### 1.25 mL DNase I Buffer

Mixture causes skin irritation.

## Serious eye damage/eye irritation

### 50 mL TR Buffer

Mixture causes serious eye irritation.

### 70 mL Wash Buffer R1

Mixture causes serious eye irritation.

### 275 µL DNase I

Mixture causes serious eye irritation.

### 1.25 mL DNase I Buffer

Mixture causes serious eye irritation.

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** No data available

**Carcinogenicity:** No data available

**Reproductive toxicity:** No data available

**Specific target organ toxicity -** No data available

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available

## 11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Component:

### **Guanidine hydrochloride**

#### **Acute toxicity:**

LD50 Oral - Rat - female - 773.6 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - female - 4 h - 3.181 mg/l - dust/mist

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - 2,000 mg/kg

(OECD Test Guideline 402)

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: Skin irritation - 24 h

(US-EPA)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Causes serious eye irritation.

(OECD Test Guideline 405)

#### **Respiratory or skin sensitization**

Buehler Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

#### **Germ cell mutagenicity**

Not mutagenic in Ames Test.

#### **Ames test**

*Salmonella typhimurium*

Result: negative

#### **Chromosome aberration test in vitro**

Chinese hamster fibroblasts

Result: negative

#### **In vitro mammalian cell gene mutation test**

Test system: mouse lymphoma cells

Result: negative

#### **Carcinogenicity**

No data available

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity – single exposure**

No data available

#### **Specific target organ toxicity – repeated exposure**

No data available

**Aspiration hazard**

No data available

**SECTION 12 – ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Data for the substances and mixtures are not 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 Other adverse effects**

No additional data available.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose-off as unused product.

**SECTION 14 – TRANSPORT INFORMATION**

Not classified as dangerous in the meaning of transport regulations.

**UN Number**

ADR/RID: -

IMDG: -

IATA-DGR: -

**UN Proper Shipping Name:**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

**Transport Hazard Class(es)**

ADR/RID: -

IMDG: -

IATA-DGR: -

**Packing Group**

ADR/RID: -

IMDG: -

IATA-DGR: -

**Environmental Hazards**

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

**Special Precaution for Users**

Data not available.

## SECTION 15 – REGULATORY INFORMATION

**Safety, health, and environmental regulations/legislation specific for the substance or mixture**  
Data not available.

## SECTION 16 – OTHER INFORMATION

**Date of Issue:** 4 November 2022

**Date of Revision:** 11 April 2023

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. We shall not be held liable for any damage resulting from handling or from contact with the above product and shall not establish a legally valid contractual relationship.*