SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

1.1 Product Identifier:

Product No: KIT-9022-250
Product Name: PrimeWay Genomic II DNA Extraction Kit, 250 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 60 mL GL1 Buffer
1x 60 mL GL2 Buffer
1x 110 mL Wash Buffer G1
1x 35 mL Wash Buffer G2
1x 30 mL Elution Buffer
1x 110 mg Proteinase K
1x 110 mg RNase A

1.2 Recommended use of the chemical and restrictions on use:
To extract genomic DNA from animal tissue, cultured cells, mouse/rat tail, bacteria, yeast, fungi from cut agar, whole blood, buffy coat, nucleated blood, dried blood spot, white blood cells, insects, buccal swab, saliva, alcohol-fixed tissue, sperm and feathers/ nails/ hair.
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

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

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	Hazard Classification; Hazard Statement
H302	Acute Tox. 4 oral; Harmful if swallowed.
H315	Skin Irrit. 2; Causes skin irritation.
H319	Eye Irrit. 2; Causes serious eye irritation.

H334	Resp. Sens. 1; May cause allergic or asthma symptoms or breathing difficulties if inhaled.
H335	Acute Tox. 3; May cause respiratory irritation.

2.1 GHS Classification of the Substance or Mixture

60 mL GL1 Buffer

Hazard Identification	**Hazard Classification; Hazard Statement**
H302	Acute Tox. 4 oral; Harmful if swallowed.
H315	Skin Irrit. 2; Causes skin irritation.
H319	Eye Irrit. 2; Causes serious eye irritation.

60 mL GL2 Buffer

Signal word WARNING

Hazard Identification	**Hazard Classification; Hazard Statement**
H302	Acute Tox. 4 oral; Harmful if swallowed.
H315	Skin Irrit. 2; Causes skin irritation.
H319	Eye Irrit. 2; Causes serious eye irritation.

110 mL Wash Buffer G1

Signal word WARNING

Hazard Identification	**Hazard Classification; Hazard Statement**
H302	Acute Tox. 4 oral; Harmful if swallowed.
H315	Skin Irrit. 2; Causes skin irritation.
H319	Eye Irrit. 2; Causes serious eye irritation.

35 mL Wash Buffer G2

Do not need labelling as hazardous

Signal word -

No hazard class

30 mL Elution Buffer

Do not need labelling as hazardous

Signal word -

No hazard class

110 mg Proteinase K

Signal word	DANGER

Hazard Identification	**Hazard Classification; Hazard Statement**
H315	Skin Irrit. 2; Causes skin irritation.
H319	Eye Irrit. 2; Causes serious eye irritation.
H334	Resp. Sens. 1; May cause allergic or asthma symptoms or breathing difficulties if inhaled.
H335	Acute Tox. 3; May cause respiratory irritation.

110 mg RNase A

Do not need labelling as hazardous

Signal word -

No hazard class

2.2 Label Elements, including precautionary statements

60 mL GL1 Buffer

Signal word: WARNING

60 mL GL2 Buffer

Signal word: WARNING

110 mL Wash Buffer G1

Signal word: WARNING

35 mL Wash Buffer G2
Do not need labelling as hazardous.
Signal word: -

30 mL Elution Buffer
Do not need labelling as hazardous.
Signal word: -

110 mg Proteinase K

Signal word: DANGER

110 mg RNase A

Do not need labelling as hazardous.
Signal word: -

Precautionary statement(s): -

Prevention

P261sh	Avoid breathing dust/vapors.
P264	Wash skin thoroughly after handling.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312	If swallowed: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	If on skin: Wash with plenty of soap and water.
P304 + P340	If inhaled: Remove victim 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. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISION CENTER or doctor/physician.
P362	Take off contaminated clothing and wash it before reuse.

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.

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

60 mL GL1 Buffer

Chemical: sodium dodecyl sulfate CAS No.: 151-21-3
GHS Classification: H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2
Formula: $C_{12}H_{25}OSO_3Na$
Pseudonym: Sodium lauryl sulfate
Lauryl sulfate sodium salt
SDS
EC No.: 205-788-1

Concentration: ≤2%

60 mL GL2 Buffer

Chemical: guanidine hydrochloride CAS No.: 50-01-1
GHS Classification: H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2
Formula: CH_6ClN_3
Pseudonym: guanidinium chloride
EC No.: 200-002-3
Concentration: ≤10 %

110 mL Wash Buffer G1

Chemical: guanidine hydrochloride CAS No.: 50-01-1
GHS Classification: H302, Acute Tox. 4 oral; H315, Skin Irrit. 2; H319, Eye Irrit. 2
Formula: CH_6ClN_3
Pseudonym: guanidinium chloride
EC No.: 200-002-3
Concentration: ≤10 %

35 mL Wash Buffer G2

No component or ingredient is contributing to hazard.

30 mL Elution Buffer

No component or ingredient is contributing to hazard.

110 mg Proteinase K

Chemical: proteinase K (origin: tritirachium album) CAS No.: 39450-01-6
GHS Classification: H315, Skin Irrit. 2; H319, Eye Irrit. 2; H334, Resp. Sens. 1; H335, Acute Tox. 3
Formula: Enzyme Comm. No. 3.4.21.64, origin: tritirachium album
Pseudonym: Endopeptidase K
Protease K
EC No.: 254-457-8
Concentration: 95 - <100 %
acc. CLP (GHS): H315, Skin Irrit. 2; H319, Eye Irrit. 2; H334, Resp. Sens. 1; H335, Acute Tox. 3

110 mg RNase A

No component or ingredient is contributing to hazard.

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 (NOx)

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. Dispose chemicals or excess reagents in accordance with 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

60 mL GL1 Buffer
This component is not known to contain any substances with occupational exposure limit values.

60 mL GL2 Buffer
Chemical: Guanidine hydrochloride CAS No.: 50-01-1
DNEL : 3.5 mg/m^3 [inh]
PNEC$_{(fresh\ water)}$: Not listed
NIOSH : Not listed
OSHA : Not listed

110 mL Wash Buffer G1
Chemical: Guanidine hydrochloride CAS No.: 50-01-1
DNEL : 3.5 mg/m^3 [inh]
PNEC$_{(fresh\ water)}$: Not listed
NIOSH : Not listed
OSHA : Not listed

35 mL Wash Buffer G2
This component is not known to contain any substances with occupational exposure limit values.

30 mL Elution Buffer
This component is not known to contain any substances with occupational exposure limit values.

110 mg Proteinase K
This component is not known to contain any substances with occupational exposure limit values.

110 mg RNase A
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 typeN95 (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

60 mL GL1 Buffer
Appearance: Liquid | Colour: Colourless | Odour: Odourless
pH: 7.5 – 8.5 (Neat, 25 °C) | Specific gravity: No data available

60 mL GL2 Buffer
Appearance: Liquid | Colour: Pale yellow | Odour: Odourless
pH: 7.5 – 8.5 (Neat, 25 °C) | Specific gravity: No data available

110 mL Wash Buffer G1
Appearance: Liquid | Colour: Colourless | Odour: Odourless
pH: 7.5 – 8.5 (Neat, 25 °C) | Specific gravity: No data available

35 mL Wash Buffer G2
Appearance: Liquid | Colour: Colourless | Odour: Odourless
pH: 7.5 – 8.5 (Neat, 25 °C) | Specific gravity: No data available

30 mL Elution Buffer
Appearance: Liquid | Colour: Colourless | Odour: Odourless
pH: 7.5 – 8.5 (Neat, 25 °C) | Specific gravity: No data available

110 mg Proteinase K
Appearance: Fine powder | Colour: White | Odour: No data available
pH: No data available | Specific gravity: No data available

110 mg RNase A
Appearance: Powder | Colour: Pale Yellow | Odour: No data available
pH: No data available | Specific gravity: No data available

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

60 mL GL1 Buffer
Harmful if swallowed.

60 mL GL2 Buffer
Harmful if swallowed.

110 mL Wash Buffer G1
Harmful if swallowed.

35 mL Wash Buffer G2
Harmful if swallowed.

30 mL Elution Buffer
Harmful if swallowed.

Skin corrosion/irritation

60 mL GL1 Buffer
Mixture may cause skin irritation and/or dermatitis.

60 mL GL2 Buffer
Mixture may cause skin irritation and/or dermatitis.

110 mL Wash Buffer G1
Mixture may cause skin irritation and/or dermatitis.

35 mL Wash Buffer G2
Mixture may cause skin irritation and/or dermatitis.

30 mL Elution Buffer
Mixture may cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

60 mL GL1 Buffer
Mixture may cause serious eye irritation.

60 mL GL2 Buffer
Mixture may cause serious eye irritation.

110 mL Wash Buffer G1
Mixture may cause serious eye irritation.

35 mL Wash Buffer G2
Mixture may cause serious eye irritation.

30 mL Elution Buffer
Mixture may cause serious eye irritation.

Respiratory or skin sensitization

110 mg Proteinase K
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

110 mg RNase A
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity: May cause respiratory irritation.

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:
Sodium dodecyl sulphate

Acute toxicity:
LD50 Oral - Rat - 1288 mg/kg
LD50 Dermal - Rabbit - 200 mg/kg
LC50 Inhalation - Rat - >3900 mg/m^3

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
Irritating to eyes.

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 – single exposure
No data available

Specific target organ toxicity – repeated exposure
No data available

Aspiration hazard
No data available

Component:
Guanidine hydrochloride

Acute toxicity:
LD50 Oral - Rat - 475 mg/kg
LD50 Dermal - Rabbit - 2000 mg/kg
LC50 Inhalation - Rat - 3.181 – 7.655 mg/L - 4 h

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/eye irritation
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 – 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 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
No data available.

SECTION 15 – REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation specific for the substance or mixture
No data available.

SECTION 16 – OTHER INFORMATION

Date of Issue: 4 July 2023 **Date of Revision:** 4 July 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.