SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

Product Identifier: REDiant II Taq DNA Polymerase (recombinant)
Molecular Biology Grade

Catalogue Number: 5116

Recommended use of the chemical and restrictions on use:
Routine PCR amplification of DNA fragments up to 6 kb. Generation of PCR product for TA cloning. DNA labeling. DNA sequencing.
For R&D use only. Not for pharmaceutical, household or other uses.

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
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Email: custcare@apicalscientific.com

Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.
+65 6775 7318 (Singapore)
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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Other Hazards - None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization: Mixture

Chemical Identity: Glycerol
Synonyms: Glycerin
1,2,3-propanetriol
glycol alcohol
Molecular Formula: $C_3H_8O_3$
Molecular Weight: 92.10 g/mol
CAS No.: 56-81-5
EC No.: 200-289-5

Other Components:
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

Eye Contact
Flush eyes continuously for 15 minutes with water as a precaution, remove contact lenses if easily possible.

Skin Contact
Immediately wash skin thoroughly with soap and copious amounts of water.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Indication of immediate medical attention and special treatment needed
Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

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

Special Exposure Hazards
Nature of decomposition products not known. Carbon oxides, Nitrogen oxides, Sulphur oxides, Hydrogen chloride gas, Potassium oxides.

Special Fire-fighting Procedures
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions
Prevent skin/eye contact. Use personal protective equipment. Ensure adequate ventilation. Avoid breathing vapours, mist or gas.

Environmental Precautions
Do not allow material into sewers and drainage systems.

Methods for Cleaning Up
Clean up spills immediately, contain and soak up spill with absorbent. Place used absorbent into suitable, covered, labeled containers for disposal.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Use with adequate ventilation as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities
Store in tightly closed container at -20°C.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational Exposure Limits

Component	CAS-No.	Value	Control parameters	Basis
Glycerol	56-81-5	PEL (long-term)	10 mg/m³	Singapore. Workplace Safety and Health Act – First Schedule Permissible Exposure Limits of Toxic Substances

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ 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 have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	**Appearance**	Colourless solution
b)	**Odour**	Odourless
c)	**Odour Threshold**	Not available

d)	**pH**	7.8 – 8.2 (Neat, 25 °C)
e)	**Melting/freezing point**	Not available
f)	**Initial boiling point and boiling range**	Not available
g)	**Flash point**	Not available
h)	**Evaporation rate**	Not available
i)	**Flammability (solid, gas)**	Not available
j)	**Upper/lower flammability or explosive limits**	Not available
k)	**Vapour pressure (mm Hg)**	Not available
l)	**Vapour density**	Not available
m)	**Relative density**	Not available
n)	**Water solubility**	Not available
o)	**Partition coefficient: n-octanol/water**	Not available
p)	**Autoignition temperature**	Not available
q)	**Decomposition temperature**	Not available
r)	**Viscosity**	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity
Data not available.

Chemical stability
Data not available.

Possibility of hazardous reactions
Data not available.

Conditions to avoid
Data not available.
Incompatible material
Strong oxidizing agents and alkalis.

Hazardous decomposition products
Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity
Data not available.

Skin corrosion/irritation
Data not available.

Serious eye damage/eye irritation
Data not available.

Respiratory or skin sensitization
Data not available.

Germ cell mutagenicity
Data not available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
Data not available.

Specific target organ toxicity – single exposure
Data not available.

Specific target organ toxicity – repeated exposure
Data not available.

Aspiration hazard
Data not available.

Other information
RTECS: Data not available

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity
Data not available.

Persistence and degradability
Data not available.

Bioaccumulative potential
Data not available.

Mobility in soil
Data not available.

Other adverse effect
Data not 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

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: JANUARY 30, 2023 **Date of Revision:** JANUARY 30, 2023

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SECTION 1 – IDENTIFICATION

Product Identifier: 10X Taq II Buffer
Molecular Biology Grade

Supplier Information:

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2 Tukang Innovation Grove
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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Other Hazards - None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization: Mixture

Other Components:
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

Eye Contact
Flush eyes continuously for 15 minutes with water as a precaution, remove contact lenses if easily possible.

Skin Contact
Immediately wash skin thoroughly with soap and copious amounts of water.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

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

Indication of immediate medical attention and special treatment needed
Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

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

Special Exposure Hazards
Nature of decomposition products not known. Carbon oxides, Nitrogen oxides, Sulphur oxides, Hydrogen chloride gas, Potassium oxides.

Special Fire-fighting Procedures
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions
Prevent skin/eye contact. Use personal protective equipment. Ensure adequate ventilation. Avoid breathing vapours, mist or gas.

Environmental Precautions
Do not allow material into sewers and drainage systems.

Methods for Cleaning Up
Clean up spills immediately, contain and soak up spill with absorbent. Place used absorbent into suitable, covered, labeled containers for disposal.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling
Use with adequate ventilation as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities
Store in tightly closed container at -20°C.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ 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 have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	**Appearance**	Colourless solution
b)	**Odour**	Odourless
c)	**Odour Threshold**	Not available
d)	**pH**	8.6 – 9.0 (Neat, 25 °C)
e)	**Melting/freezing point**	Not available
f)	**Initial boiling point and boiling range**	Not available
g)	**Flash point**	Not available
h)	**Evaporation rate**	Not available
i)	**Flammability (solid, gas)**	Not available
j)	**Upper/lower flammability or explosive limits**	Not available
k)	**Vapour pressure (mm Hg)**	Not available
l)	**Vapour density**	Not available
m)	**Relative density**	Not available
n)	**Water solubility**	Not available
o)	**Partition coefficient:**	Not available

	n-octanol/water	
p)	**Autoignition temperature**	Not available
q)	**Decomposition temperature**	Not available
r)	**Viscosity**	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity
Data not available.

Chemical stability
Data not available.

Possibility of hazardous reactions
Data not available.

Conditions to avoid
Data not available.

Incompatible material
Strong oxidizing agents and alkalis.

Hazardous decomposition products
Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity
Data not available.

Skin corrosion/irritation
Data not available.

Serious eye damage/eye irritation
Data not available.

Respiratory or skin sensitization
Data not available.

Germ cell mutagenicity
Data not available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Data not available.

Specific target organ toxicity – single exposure
Data not available.

Specific target organ toxicity – repeated exposure
Data not available.

Aspiration hazard
Data not available.

Other information
RTECS: Data not available

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity
Data not available.

Persistence and degradability
Data not available.

Bioaccumulative potential
Data not available.

Mobility in soil
Data not available.

Other adverse effect
Data not 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

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: JANUARY 30, 2023 **Date of Revision:** JANUARY 30, 2023

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SECTION 1 – IDENTIFICATION

Product Identifier: 25mM $MgCl_2$
Molecular Biology Grade

Supplier Information:

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SECTION 2 – HAZARDS IDENTIFICATION

GHS Classification
Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

Other Hazards - None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Identity:	Magnesium Chloride
Molecular Formula:	$MgCl_2$
Molecular Weight:	95.21 g/mol
CAS No.:	7786-30-3
EC No.:	232-094-6

SECTION 4 – FIRST-AID MEASURES

Eye Contact
Flush eyes continuously for 15 minutes with water as a precaution, remove contact lenses if easily possible.

Skin Contact
Immediately wash skin thoroughly with soap and copious amounts of water.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth with water.

Most important symptoms and effects, both acute and delayed

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

Indication of immediate medical attention and special treatment needed
Data not available.

SECTION 5 – FIRE-FIGHTING MEASURES

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

Special Exposure Hazards
Hydrogen chloride gas, Magnesium oxides.

Special Fire-fighting Procedures
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions
Prevent skin/eye contact. Use personal protective equipment. Ensure adequate ventilation. Avoid breathing vapours, mist or gas.

Environmental Precautions
Do not allow material into sewers and drainage systems.

Methods for Cleaning Up
Clean up spills immediately, contain and soak up spill with absorbent. Place used absorbent into suitable, covered, labeled containers for disposal.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling
Use with adequate ventilation as necessary or desired. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage, including any incompatibilities
Store in tightly closed container at -20°C.

SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice.

Eye/ Face Protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin/ 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 have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	**Appearance**	Colourless solution
b)	**Odour**	Odourless
c)	**Odour Threshold**	Not available
d)	**pH**	Not available
e)	**Melting/freezing point**	Not available
f)	**Initial boiling point and boiling range**	Not available
g)	**Flash point**	Not available
h)	**Evaporation rate**	Not available
i)	**Flammability (solid, gas)**	Not available
j)	**Upper/lower flammability or explosive limits**	Not available
k)	**Vapour pressure (mm Hg)**	Not available
l)	**Vapour density**	Not available
m)	**Relative density**	Not available
n)	**Water solubility**	Not available
o)	**Partition coefficient:**	Not available

	n-octanol/water	
p)	**Autoignition temperature**	Not available
q)	**Decomposition temperature**	Not available
r)	**Viscosity**	Not available

SECTION 10 – STABILITY AND REACTIVITY

Reactivity
Data not available.

Chemical stability
Data not available.

Possibility of hazardous reactions
Data not available.

Conditions to avoid
Data not available.

Incompatible material
Strong oxidizing agents.

Hazardous decomposition products
Data not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 (Oral): 2,800 mg/kg [Rat]
LD50 (Oral): 4,700 [Mouse]
LD50 (Dermal): > 2,000 mg/kg [Rat]

Skin corrosion/irritation
Data not available.

Serious eye damage/eye irritation
No eye irritation: OECD Test Guideline 405 [Rabbit]

Respiratory or skin sensitization
No skin irritation: Maximisation Test, OECD Test Guideline 406 [Guinea pig]

Germ cell mutagenicity
Negative: Genotoxicity in vitro; lymphocyte - with and without metabolic activation [Mouse]

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Data not available.

Specific target organ toxicity – single exposure
Data not available.

Specific target organ toxicity – repeated exposure
Data not available.

Aspiration hazard
Data not available.

Other information
RTECS: OM2800000

SECTION 12 – ECOLOGICAL INFORMATION

Toxicity
LC50: 2,119.3 mg/l; 96 hr [Pimephales promelas]

Persistence and degradability
Data not available.

Bioaccumulative potential
Data not available.

Mobility in soil
Data not available.

Other adverse effect
Data not 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

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: JANUARY 30, 2023 **Date of Revision:** JANUARY 30, 2023

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