

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: GF-GP-005; GF-GP-050; GF-GP-100; GF-GP-200
GF-BA-K; GF-BA-KW; GF-BD-K; GF-BD-KW; GF-PT-K;
GF-PT-KW; GF-TD-K; GF-TD-KW; GF-PL-K; GF-PL-KW

Product Name: GF-1 Gel DNA Recovery Kit with 5 preps, 50 preps, 100 preps, and 200 preps;
GF-1 Bacteria Starter Kit/*Taq* DNA Polymerase;
GF-1 Bacteria Starter/Chromo *Taq* DNA Polymerase;
GF-1 Blood Starter Kit/*Taq* DNA Polymerase;
GF-1 Blood Starter/Chromo *Taq* DNA Polymerase;
GF-1 Plant Starter Kit/*Taq* DNA Polymerase;
GF-1 Plant Starter/Chromo *Taq* DNA Polymerase
GF-1 Tissue Starter Kit/*Taq* DNA Polymerase;
GF-1 Tissue Starter/Chromo *Taq* DNA Polymerase
GF-1 Plasmid Starter Kit/*Taq* DNA Polymerase;
GF-1 Plasmid Starter/Chromo *Taq* DNA Polymerase

Description: DNA extraction kit for purification of DNA bands from all grades of agarose gel.

Intended Use:
For research use and laboratory use only.

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

All concentrations are below the acceptable limits specific to each chemical.

Component(s)	Hazardous Ingredient(s)	CAS No.	Concentration
GB Buffer	Guanidine Thiocyanate	593-84-0	≥30% - <60%
Wash Buffer	No hazardous substance or mixture in the ingredients	-	-
Elution Buffer	No hazardous substance or mixture in the ingredients	-	-

Acute Effects

The ingredients in this diagnostic kit are irritants to skin, eyes and respiratory system. They are harmful if it comes into contact with the skin and toxic if ingested.

Chronic Effects

Hazardous in case of ingestion.

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SECTION 3: HAZARDS IDENTIFICATION

GHS Classification

The extraction kit consists of individual ingredients for different components of kit.

Component(s)	Hazardous Ingredient(s)	CAS No.	Concentration
GB Buffer	Guanidine Thiocyanate	593-84-0	≥30% - <60%
Classification (Regulation (EC) No. 1272/2008) Acute Toxicity 4; H302 Acute Toxicity 4; H332 Hazardous to aquatic environment-chronic hazard 3; H412			
Classification (67/548/EEC) No information available.			

Component(s)	Hazardous Ingredient(s)
Wash Buffer	No hazardous substance or mixture in the ingredients
Classification (Regulation (EC) No. 1272/2008) Not a hazardous substance or mixture.	
Classification (67/548/EEC) Not a hazardous substance or mixture.	

Component(s)	Hazardous Ingredient(s)
Elution Buffer	No hazardous substance or mixture in the ingredients
Classification (Regulation (EC) No. 1272/2008) Not a hazardous substance or mixture.	
Classification (67/548/EEC) Not a hazardous substance or mixture.	

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Classification of the whole kit according to CLASS regulation 2013

Acute toxicity, Category 4, Oral;	H302: Harmful if swallowed
Acute toxicity, Category 2, Inhalation;	H332: Harmful if inhaled
Chronic aquatic toxicity, Category 3;	H412: Harmful to aquatic life with long lasting effects

Label elements

Labeling according to regulation (EC) No. 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H302 + H332	Harmful if swallowed or if inhaled
H412	Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention:

P261	Avoid breathing dust / fume / gas / mist / vapors / spray
P264	Wash skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment

Response:

P304 + P340 + P312	If inhaled, remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
P501	Dispose of contents/container to an approved waste disposal plant.

Other hazards

Not applicable

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SECTION 4: FIRST-AID MEASURES

In case of contact with eyes, immediately flush with copious amounts of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do.

In case of contact with skin, immediately wash with soap and copious amounts of water for several minutes. Take off immediately all contaminated clothing.

In case of ingestion, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

Notes to physician are that the first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media

Suitable: Carbon dioxide.

Unsuitable: High volume water jet

Do not allow run-off from firefighting to enter drains or water courses.

Wear self-contained breathing apparatus and protective clothing and equipment to prevent contact with skin and eyes for firefighting.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

For safety reasons in case of fire, cans should be stored in separately in closed containments.

Use a water spray to cool fully closed containers.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear the protective clothing, rubber gloves and mask. Wear self-contained breathing apparatus, rubber boots and goggles if necessary.

Environmental Precautions

Do not let product enter drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Measures for Cleaning / Collecting

Soak up with inert absorbent material: sand, silica gel, acid binder, universal binder, sawdust. Collect spilled liquid with liquid-binding material or inert absorbent and place in closed container for disposal. Dispose of in accordance with federal, state and local environmental regulations. Wash spill site after material pickup is complete.

SECTION 7: HANDLING AND STORAGE

Handling

Good laboratory techniques should be used when handling. Do not eat, drink, smoke or apply cosmetics in laboratory areas. Do not pipette reagents or samples by mouth. Use reagents according to the product insert.

Work under hood or open-air space. Do not inhale substance / mixture. Avoid generation of vapors / aerosols.

Storage

Store all components as directed in the product insert. Keep tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear appropriate personal protective equipment when working with components or samples, including laboratory coats, disposable gloves and eye protection. Avoid hand and mouth contact. Wash hands as soon as possible after handling components or samples. Handle in accordance with good industrial hygiene and safety practice.

Exposure Controls

Respiratory Protection	In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.
Hand Protection	Wear suitable protective gloves. Gloves material: compatible chemical-resistant gloves; nitrile rubber gloves.
Eye & Face Protection	Eye wash bottle with pure water. Tightly fitting safety goggles.
Skin & Body Protection	Wear suitable protective clothing and impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Environmental Exposure Controls

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information for GB Buffer, Wash Buffer, Elution Buffer

Appearance:	Liquid, Colorless
Odor:	No odor
pH:	GB Buffer: pH4.5-5 Wash Buffer: pH7-9 Elution Buffer: pH8-9
Melting Point:	No information available
Boiling Point:	No information available
Flash Point:	No information available
Autoignition Temperature:	No information available
Decomposition Temperature:	No information available
Evaporation rate:	No information available
Flammability:	No information available
Upper Explosion Limit:	No information available
Lower Explosion Limit:	No information available
Vapor Pressure:	No information available
Relative Density:	No information available

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Specific Gravity:	No information available
Water Solubility:	All buffers soluble
Partition coefficient: n-octanol/water:	No information available
Explosive Properties:	Not classified as explosive
Oxidizing Properties:	Not classified as oxidizing
Other information:	No information available

SECTION 10: STABILITY AND REACTIVITY

The contents of the kit are stable under normal handling and storage conditions as stated in the product insert until the expiration date indicated on the corresponding label.

Reactivity:	No dangerous reaction known under conditions of normal use
Possibility of hazardous reactions:	Contact with acids liberates very toxic gas. No decomposition if stored and applies as directed. Vapors may form explosive mixture with air. No decomposition if stored and applied as directed
Conditions to avoid:	Exposure to light and moisture. Heat, flames and sparks.
Incompatible materials:	Strong acids and oxidizing agents. Cyanides.
Polymerization:	No data available.
Hazardous decomposition products:	No data available.

SECTION 11: TOXICOLOGICAL INFORMATION

Information for Guanidine Thiocyanate (GB Buffer)

Acute Toxicity

Acute oral toxicity:	LD50 Oral (Rat): 593 mg/kg
Acute inhalation toxicity:	Acute toxicity estimate: 1.5 mg/L; Test atmosphere: dust/mist
Acute dermal toxicity:	Acute toxicity estimate: 1100 mg/kg

Skin corrosion / irritation:	No data available
Serious eye damage / eye irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity effects:	No data available
Reproductive toxicity:	Not classified based on available information
Aspiration toxicity:	Not classified based on available information
STOT – Single exposure:	Not classified based on available information
STOT – Repeated exposure:	Not classified based on available information

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Information for Wash Buffer and Elution Buffer

Acute Toxicity:	Not classified based on available information
Skin corrosion / irritation:	Not classified based on available information
Serious eye damage / eye irritation:	Not classified based on available information
Respiratory or skin sensitization:	Not classified based on available information
Germ cell mutagenicity:	Not classified based on available information
Carcinogenicity effects:	Not classified based on available information
Reproductive toxicity:	Not classified based on available information
Aspiration toxicity:	Not classified based on available information
STOT – Single exposure:	Not classified based on available information
STOT – Repeated exposure:	Not classified based on available information

SECTION 12: ECOLOGICAL INFORMATION

The extraction kit contains **Guanidine Thiocyanate (GB Buffer)** known to be hazardous to the environment or not degradable in wastewater treatment plants.

Self-assessment: Hazardous for water. Do not allow product or large quantities of it to reach ground water, water course or sewage system.

Toxicity

Guanidine Thiocyanate

Fish: LC50 (Poecilia reticula (guppy)): 89.1 mg/L; Exposure time: 96 hr

Daphnia and other aquatic invertebrates: EC50 (Daphia (water flea)): 42.4 mg/L; Exposure time: 48hr

Chronic aquatic toxicity:	Harmful to aquatic life with long lasting effects
Toxicity data on soil:	Not expected to absorb on soil
Other organisms relevant to the environment:	No data available

Persistence and Degradability

No data available for the extraction kit, including Guanidine Thiocyanate.

Bioaccumulative Potential

Guanidine Thiocyanate

Partition coefficient: n-octanol / water: log Pow: ca. -1.38

Mobility in Soil

No data available for the extraction kit, including Guanidine Thiocyanate.

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Results of PBT and vPvB assessment

No applicable for the extraction kit, including Guanidine Thiocyanate.

Other adverse effects

No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Do not contaminate ponds, waterways or drains with chemical or used container. Used components from this product should be disposed to a licensed waste management company.

Waste material must be disposed of in accordance with federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

IATA-DGR / IMDG-Code

Not regulated as dangerous product in the meaning of transport regulations.

UN Number: Not regulated as dangerous product

UN proper shipping name: Not regulated as dangerous product

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Not regulated as dangerous product

SECTION 15: REGULATORY INFORMATION

International Inventories

REACH: Not comply

CH INV: Complies

TSCA: Complies

DSL: Complies

AICS: Complies

NZIoC: Complies

ENC: Not comply

ISHL: Not comply

KECI: Complies

PICCS: Complies

IECES: Complies

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SECTION 16: OTHER INFORMATION

The information contained in this MSDS relates only to the material(s) designed and does not relate to use(s) in combination with any other material, process(es) and /or chemical reaction(s). Vivantis Technologies Sdn. Bhd. provides this information in good faith, from sources believed to be accurate; however, Vivantis assumes no liability for its accuracy or completeness, and thus shall not be held liable for any damage resulting from handling or from contact with the above product.

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