

## Material Safety Data Sheet

### 1. PRODUCT IDENTIFICATION

- Business Unit: Molecular Biology
- Production Name: FFPE Total RNA Extraction Miniprep System
- Catalogue Number: FFVTR1001

<u>Component:</u>	<u>Component Part Number</u>
FLYS buffer	FLYS00012
VRX Buffer	VRX000035
WS Buffer	WS000020
RNase-free dd H <sub>2</sub> O	RND00015
Proteinase K	PK000010

- Manufacturer/ Supplier: **VIOGENE BIOTEK CORP.**  
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 Sijhih Dist., New Taipei City, Taiwan, R.O.C.  
 Tel: + 886 2 26472259

- Preparation Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_
- Contact / Preparatory: Simon Chou
- Information Number: + 886 2 2647 2259

**[NOTE:]** The emergency number to be used particularly in emergencies involving a non-specific accident spill, leak, fire or exposure.

### 2. COMPOSITION / DATA ON COMPONENTS

Hazardous Ingredients:		Hazard Classification of Pure Ingredients	
Chemical name	Cas No.	EU 1272/2008 CLP/GHS	EU-67/548/EEC
Guanidine Thiocyanate	593-84-0	Acute toxicity, oral (4) Acute toxicity, inhalation (4) Acute toxicity, dermal(4) Skin corrosion (1) Chronic aquatic toxicity (3) H302, H312, H332, H314, H412	Harmful by inhalation, in contact with skin and if swallowed. Contact with acids liberates very toxic gas. Causes burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R20/21/22, R32, R34, R52/53

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Diethyl pyrocarbonate	1609-47-8	Acute toxicity, Oral (4), H302 Skin irritation (2), H315 Eye irritation (2), H319 Specific target organ toxicity - single exposure (3), H335	Xn R22, R36/37/38
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### 3. HAZARDS IDENTIFICATION

**Potential health effects:**

- Inhalation** Toxic if inhaled. Causes irritation to respiratory tract. Symptoms may include coughing, shortness of breath.
- Ingestion** May cause psychosis, vomiting, disorientation, weakness, low blood pressure, convulsions and death which may be delay. Causes irritation to gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.
- Skin Contact** Cause irritation to skin. Symptoms include redness, itching, and pain.
- Eye Contact** Cause irritation, redness, and pain.
- Chronic Exposure** May cause damage to organs through prolonged or repeated exposure. May cause damage to organs through prolonged or repeated skin exposure may cause dermatitis. Repeated ingestion of small amounts may cause weakness, confusion, central nervous system effects, nausea and skin eruptions.
- Other Hazard** N/A

### 4. FIRST AID MEASURES (CONT.)

- Inhalation** If breathed in, move person into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion** Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention.
- Skin Contact** Take off contaminated clothing and shoes immediately and flush skin with plenty of water for at least 15 minutes. Get medical attention. Clean clothing and shoes before use.
- Eye Contact** Immediately flush eyes with plenty of water for at least 15 minutes. Lifting lower and upper eyelids occasionally. Get medical attention immediately.

### 5. FIRE FIGHTING MEASURES

**Fire Extinguishing Media:** water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special Hazards Arising From the Substance or Mixture:** N/A

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### **Advice for fire fighters:**

Wear full protective clothing and self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

### **Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

Work under hood. Avoid inhaling, ingesting, and contact with eyes and skin. Use universal precautions during clean up procedures.

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

Store at room temperature and keep in a well-ventilated room. Keep container tightly closed and upright to prevent leakage. Keep away from incompatible material (see section 10).

## **8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

### **Engineering controls**

Use in well ventilated area. Avoid contact with skin, eyes and clothing. Wash hand before breaks and immediately after handling the product

### **Personal protection**

**Eye protection** Safety glasses or chemical goggles should be worn to prevent eye contact.

**Skin protection** Wear impervious protecting clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory Protection** If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified

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professional.

### 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Physical State</b>	Liquid	<b>Specific Gravity (Water=1.0)</b>	N/A
<b>Color</b>	N/A	<b>Solubility</b>	N/A
<b>Transparency</b>	Clear	<b>Odor</b>	Acrid odor
<b>pH</b>	N/A	<b>Coefficient of Water/Oil Distribution</b>	N/A
<b>Freezing Point</b>	N/A	<b>Autoignition Temp.</b>	N/A
<b>Boiling Point</b>	N/A	<b>Decomposition Temperature</b>	N/A
<b>Flash Point</b>	N/A	<b>Percent Volatiles</b>	N/A
<b>Evaporation Rate</b>	N/A	<b>Vapor Pressure</b>	N/A
<b>Flammability (Solid, Gas)</b>	N/A	<b>Viscosity</b>	N/A
<b>Flammable Limits</b>	N/A	<b>Explosive Properties</b>	N/A
<b>Vapor Density</b>	N/A	<b>Oxidizing Properties</b>	N/A
<b>Odor Threshold</b>	N/A	<b>Other information</b>	N/A

### 10. STABILITY AND REACTIVITY (CONT.)

<b>Reactivity</b>	N/A
<b>Chemical Stability</b>	Stable under normal temperatures and pressures.
<b>Possibility of Hazardous Reactions</b>	N/A
<b>Conditions to Avoid</b>	Avoid to exposure to heat and incompatible materials.
<b>Incompatible Materials</b>	Strong oxidizing agents, strong acids, strong bases, strong reducing reagent, calcium hypochlorite, aluminum chloride, metal.
<b>Hazardous Decomposition Products</b>	N/A

### 11. TOXICOLOGICAL INFORMATION

#### Toxicity Data for Hazardous Ingredients

Guanidine hydrochloride	Oral LD50 rat: 593 mg/kg
Diethyl pyrocarbonate	Oral LD50 rat: 850 mg/kg

**Primary routes of exposure:** Eye contact, ingestion, inhalation, and skin contact

**Germ cell mutagenicity:** In vitro tests showed mutagenic effects

#### Carcinogenicity:

No ingredients in this product are identified as human carcinogen based on its IARC, NTP, or EPA classification.

#### Potential health effects:

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<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	Toxic if swallowed. Causes burns.
<b>Skin</b>	Toxic in contact with skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.
<b>Repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. May cause spasm, inflammation and edema of the larynx and bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, circulatory collapse, tachypnea, paralysis, convulsions, coma, necrosis of mouth and G.I. tract, jaundice, respiratory failure, and cardiac arrest.

**Other information:** N/A

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

### **12. ECOLOGICAL INFORMATION:**

**Environmental Fate:** N/A

**Environmental Toxicity:** Toxic to aqueous organism

### **13. DISPOSAL CONSIDERATIONS:**

Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

### **14. TRANSPORT INFORMATION:**

Transportation of this product is not regulated.

### **15. REGULATORY INFORMATION:**

**Safety, health and environmental regulations/legislation specific for the substance or mixture:** N/A

**Chemical safety assessment:** N/A

### **16. OTHER INFORMATION:**

**Other Comment:** N/A – Not available or no information.

**Disclaimer:**



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## **Material Safety Data Sheet**

This information contained herein is based upon our efforts to acknowledge. However, we do not warrant the accuracy of this information. In no case shall VIOGENE does constitute a warranty for incidental or consequential damages, including lost profits.