

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: ME4309; ME4310

Product Name: Ribonuclease inhibitor RNase-Free

Intended Use:

For research use only. Not for use in diagnostic procedures.

Company Headquarters:

Vivantis Technologies Sdn Bhd
Revongen Corporation Center
Level 17, Top Glove Tower,
No. 16, Persiaran Setia Dagang,
Setia Alam, Seksyen U13, 40170 Shah Alam,
Selangor Darul Ehsan, Malaysia.
Tel: +6 03 3359 1166
Fax: +6 03 3358 0303
Email: info@vivanttechnologies.com
Website: www.vivanttechnologies.com

Company Manufacturing:

Vivantis Technologies Sdn Bhd
Production Lab
Level 1, Enterprise 2,
Technology Park Malaysia,
Lebuhraya Puchong-Sg. Besi,
57000 Bukit Jalil,
Kuala Lumpur, Malaysia.

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	EC No.	%
Glycerol	56-81-5	200-289-5	45-55

SECTION 3: HAZARDS IDENTIFICATION

GHS Classification

Skin irritation – Category 2
 Eye irritation – Category 2

GHS label elements, including precautionary statements



Signal word: Warning

Hazard statements

H315 Causes skin irritation
 H319 Causes serious eye irritation
 H335 May cause respiratory irritation

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/ face protection.
 P302 + P350 If on skin, gently 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.

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SECTION 4: FIRST-AID MEASURES

In case of eye contact, immediately flush with copious amounts of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

In case of skin contact, immediately wash with soap and copious amounts of water. Get medical attention if symptoms occur.

In case of inhalation, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing becomes difficult, give oxygen.

In case of ingestion, wash out mouth with water and afterwards drink plenty of water.

Notes to physician:

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Not flammable.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Use carbon dioxide, dry chemical, water spray or regular foam.

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and fully protective gear.

Hazardous decomposition products formed under fire conditions: Carbon oxides.

Flash point:

Not determined.

Explosion data – sensitivity to mechanical impact:

Not sensitive.

Explosion data – sensitivity to static discharge:

Not sensitive.

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal precautions, avoid contact with skin, eyes and clothing. Put on appropriate personal protective equipment. Ensure adequate ventilation.

For cleaning up, prevent further leakage or spillage if safe to do so. Absorb on sand or vermiculite in a closed waste disposal container. Ventilate and wash spill area after material pickup is complete.

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SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice.
Keep container tightly in a dry and well-ventilated place.
Incompatible with strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	Country	Control parameters
Glycerol	-	ACGIH TLV - TWA: 10 mg/m ³ OSHA PEL - TWA: 15 mg/m ³
Eye/Face Protection	Tightly fitting safety goggles.	
Skin and Body Protection	Wear protective gloves/clothing	
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved respiratory protection should be worn. Positive pressure-supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.	

Use engineering measures such as showers, eyewash stations and ventilation systems.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light yellow
Physical state:	Liquid
Odor:	No information available
Odor threshold:	No information available
Density:	No information available
pH:	5-8
Melting point:	No information available
Freezing point:	No information available
Initial Boiling point:	No data available
Boiling point:	No information available
Flash point:	Not determined
Ignition temperature:	No information available
Autoignition temperature:	No data available
Decomposition temperature:	No information available

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Upper Flammability limit in air:	No data available
Lower Flammability limit in air:	No data available
Explosive properties:	No information available
Lower explosion limit:	No data available
Upper explosion limit:	No data available
Oxidizing properties:	No information available
Solubility:	Soluble in water
Partition coefficient (n-octanol/water):	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Evaporation rate:	No data available
Specific gravity:	No data available
Viscosity:	No information available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	Carbon oxides.
Hazardous polymerization:	Does not occur.
Conditions to avoid:	None known based on information supplied.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Glycerol

Oral LD50:	Rat – 12600 mg/kg
Inhalation LC50:	No data available
Dermal LD50:	Rat – 21900 mg/kg
Skin irritation:	Yes
Eye irritation:	Yes
Respiratory or skin sensitization:	Yes
Mutagenicity:	No data available
Reproductive toxicity:	No data available
Teratogenicity:	No data available
Aspiration hazard:	No data available
Synergistic effects:	No data available

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STOT – single exposure:	No data available
STOT – repeated exposure:	No data available
Carcinogenicity:	No data available
Likely routes of exposure:	No information available.

Chronic toxicity

No known significant effects or critical hazards.

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

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Glycerol

LC50: Fish – Oncorhynchus mykiss – 51 to 57 mL/L – 96 hrs

EC50: Daphnia Magna (Water Flea) – >500mg/L – 24 hrs

Partition coefficient

-1.76

Unit

Log P_{ow}

Persistence and degradability:	Not available
Bioaccumulative potential:	Not available
Mobility in soil:	Not available
Other adverse effects:	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose waste material in accordance with all federal, state and local regulations.
For contaminated packaging, dispose as waste material.

SECTION 14: TRANSPORT INFORMATION

DOT

Not regulated as Dangerous Goods according to the ADG code.

IATA

Not regulated as Dangerous Goods according to the ADG code.

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SECTION 15: REGULATORY INFORMATION

REACH Title VII Restrictions

No information available.

International Inventories:

TSCA:	Complies
EINECS/ELINCS:	Complies
ENCS:	Complies
PICCS:	Complies
IECSC:	Complies
AICS:	Complies
KECL:	Does not comply

United States Federal Regulations

SARA 313 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

Glycerol

HAPS data:	-
VOC Chemicals:	Group II
Class 1 Ozone Depletors:	-
Class 2 Ozone Depletors:	-

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U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Glycerol

Massachusetts:	X
New Jersey:	X
Pennsylvania:	X
Illinois:	-
Rhode Island:	X

International Regulations

Mexico – Grade

Chemical Name: Glycerol

Exposure Limits: TWA = 10mg/m³

WHMIS Hazard Class

D2B

Toxic Materials



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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