

**MATERIAL SAFETY DATA SHEET
VIVANTIS TECHNOLOGIES SDN BHD**

Document No.: MSDSrev06_PC0908
Date prepared: 1st April 2025

Reviewed: 10th April 2025

SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PC0908-1L
Product Name: Glycerol

Intended Use:
For research use only. Not for use in diagnostic procedures.

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	%
Glycerol	56-81-5	200-289-5	95-100

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+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.

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SECTION 4: FIRST-AID MEASURES

In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician.

In case of skin contact, wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

In case of inhalation, move to fresh air. If not breathing, give artificial respiration.

In case of ingestion, rinse mouth. Never give anything by mouth to an unconscious person.

SECTION 5: FIRE FIGHTING MEASURES

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

Use water spray, dry chemical, carbon dioxide and appropriate foam.

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH and full protective gear.

Hazardous Combustion Products: Carbon oxide

Explosion data – sensitivity to mechanical impact: None.

Explosion data – sensitivity to static discharge: None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation.

For environmental precautions, prevent further leakage or spillage if safe to do so.

For cleaning up, absorb on sand or vermiculite and place in closed containers for disposal. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice.

Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic.

Incompatible with strong bases and strong oxidizing agents.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Respiratory protection:	Wear NIOSH/MSHA approved respiratory protection if exposure limits are exceeded or irritation is experienced. For high airborne contaminant concentration, positive pressure-supplied air respirators may be required. Respiratory protection must be provided in accordance with current local regulations.
Face/Eye protection:	Avoid contact with eyes. Safety glasses with side-shields.
Skin and body protection:	Wear protective gloves and clothing.

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:	Colorless, clear, and haze-free
Physical state:	Solution
Odor:	No information available
Odor threshold:	No information available
Decomposition Temperature	No information available
Density:	3.1
pH:	5.5 – 8.0
Melting point:	No data available
Freezing point:	No information available
Initial Boiling point:	No information available
Boiling point:	182°C/20MM
Flash point:	160°C/320°F
Autoignition temperature:	369°C/698°F
Upper Flammability limit in air:	No data available
Lower Flammability limit in air:	0.9
Explosive properties:	No information available
Oxidizing properties:	No information available
Solubility:	Soluble in water (if do mixing)
Partition coefficient (n-octanol/water):	No data available
Vapor density:	No data available
Evaporation rate:	No data available

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Specific gravity: 1.261
Viscosity: No information available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid: Strong bases, strong oxidizing agents
Hazardous decomposition products: Carbon oxides
Possibility of hazardous reactions: None under normal processing.
Conditions to avoid: None known based on information supplied.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity:

Irritating to eye, skin and respiratory system.

LD50 Oral: Rat: 12600mg/kg
LD50 Dermal: >10000mg/kg

Chronic toxicity:

No known effect based on information supplied.
Target Organ Effects: Kidneys

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms.

Toxicity to algae: None
Toxicity to Fish: LC50: Oncorhynchus mykiss: 51-57 ml/L 96 hours
Microtox: None
Daphnia Magna: EC50: >500 mg/L 24 hours
Log Pow: -1.76

Persistence and degradability: No data available.
Bioaccumulative potential: No data available.
Other adverse effects: No data available.

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SECTION 13: DISPOSAL CONSIDERATIONS

Dispose waste material in accordance with all federal, state and local regulations.
For contaminated packaging, do not reuse.

SECTION 14: TRANSPORT INFORMATION

DOT

Not regulated.

IATA

Not regulated.

SECTION 15: REGULATORY INFORMATION

International Inventories

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

U.S. 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 Regulation, Part 372:

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
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)

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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:

VOC Chemicals: Group II

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Maxico-Grade

Carcinogen Status: None

Exposure Limits: TWA 10mg/m³

Canada

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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