

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

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**SECTION 1: CHEMICAL IDENTIFICATION**

Catalogue Number: PC0705-5g; PC0705-25g; PC0705-100g  
Product Name: DL-Dithiothreitol (DTT)

**Intended Use:**

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

**Company Address:**

Vivantis Technologies Sdn Bhd  
No. 12A, Jalan TP5,  
Taman Perindustrian UEP,  
47600 Subang Jaya,  
Selangor Darul Ehsan, Malaysia.  
Tel: +6 016 226 0492  
Email: [info@vivanttechnologies.com](mailto:info@vivanttechnologies.com)  
Website: [www.vivanttechnologies.com](http://www.vivanttechnologies.com)

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**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No.	EC No.	%
DL-Dithiothreitol	3483-12-3	222-468-7	95-100

**SECTION 3: HAZARDS IDENTIFICATION****GHS Classification according to OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity (oral) -	Category 4
Skin corrosion/irritation -	Category 2
Serious eye damage/Eye irritation -	Category 2
Specific target organ toxicity (single exposure) -	Category 3

**GHS Label elements, including precautionary statements**

Signal word: Warning

**Hazard statements**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

**Precautionary statements**

Wash face, hands and any exposed skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.

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If on skin, wash with plenty of soap and water

If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.

If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse.

If swallowed, call a poison center or doctor/physician if you feel unwell. Rinse mouth.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents/container to an approved waste disposal plant.

## **Hazards not otherwise classified (HNOC)**

Not regulated.

## **Other Information**

Unknown acute toxicity      0 % of the mixture consists of ingredient(s) of unknown toxicity.

## **SECTION 4: FIRST-AID MEASURES**

In case of eye contact, rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. 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 decomposition products formed under fire conditions: Carbon oxides, hydrogen sulfide gas, sulfur oxides.

Explosion data – sensitivity to mechanical impact: None.

Explosion data – sensitivity to static discharge: None.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, ensure adequate ventilation, especially in confined areas.

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

For cleaning up, avoid dust formation. 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 bases, oxidizing agents, reducing agents and alkali metals.

### 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:	White
Physical state:	Powder
Odor:	Thiol odor, unpleasant characteristic skunk-like
Odor threshold:	No information available
Density:	No information available
pH:	4.3

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Melting point:	42°C to 43°C
Freezing point:	No information available
Initial Boiling point:	No information available
Boiling point:	No information available
Flash point:	109°C/228°F
Autoignition temperature:	No data available
Decomposition temperature:	No information available
Upper Flammability limit in air:	No data available
Lower Flammability limit in air:	No data available
Explosive properties:	No information 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:	1.0
Viscosity:	No information available

## SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid:	Bases, oxidizing agents, reducing agents and alkali metals.
Hazardous decomposition products:	Carbon oxides, hydrogen sulfide gas and sulfur oxides.
Possibility of hazardous reactions:	None under normal processing.
Conditions to avoid:	Protect from moisture.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Acute toxicity:

Inhalation:	May cause irritation of respiratory tract.
Eye Contact:	Irritating to eyes.
Skin Contact:	Irritating to skin.
Mutagenicity effects:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
STOT – single exposure:	No information available
STOT – repeated exposure:	No information available

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Target organ effects: Central nervous system (CNS)  
 Aspiration hazard: No data available  
 0 % of the mixture consists of ingredient(s) of unknown toxicity.  
 To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

## **SECTION 12: ECOLOGICAL INFORMATION**

### **Ecotoxicity**

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

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

## **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**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Does not comply
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

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**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)

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. EPA Label Information**

**EPA Pesticide Registration Number**

Not regulated.

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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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 [info@vivanttechnologies.com](mailto:info@vivanttechnologies.com)

 [www.vivanttechnologies.com](http://www.vivanttechnologies.com)

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