

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: NM2417; NM2418; NM2419; NM2419-S; NM2420

Product Name: CentiMark PCR Marker

Intended Use:

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

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Nucleic acid in buffer solution. Volume of each product package varies.

| Chemical Name | CAS No. | % |
|--|-----------|-------|
| Bromophenol Blue | 115-39-9 | <1 |
| Ethylenediaminetetraacetic acid, disodium salt (EDTA-Na ₂) | 6381-92-6 | ≤2.39 |
| Glycerol | 56-81-5 | 60 |
| Tris hydrochloride (Tris-HCl) | 1185-53-1 | <1 |
| Xylene cyanol FF | 2650-17-1 | <1 |

SECTION 3: HAZARDS IDENTIFICATION

GHS Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122).

The preparation is not classified as dangerous according to Directive 1999/45/EC or Directive 67/548/EC and is not labeled with danger symbols or indications of danger.

GHS Label elements

Labeling according to Directive 1999/45/EC or Directive 67/548/EC

Pictogram: None
 Signal Word: None
 Hazard statements: None
 Precautionary statements: Not a hazardous substance or mixture

Other Hazards

None

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SECTION 4: FIRST-AID MEASURES

In case of contact with eyes, rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

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

If inhaled, remove to fresh air. If not breathing, give artificial respiration.

If swallowed, never give anything by mouth to an unconscious person. Rinse mouth.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media

Wear self-contained breathing apparatus, MSHA/NIOSH and protective clothing.

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

Unsuitable Extinguishable media: No information available

Special hazards arising from the chemical

No information available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

Ensure adequate ventilation, especially in confined areas.

Measures for Cleaning / Collecting

Cover with dry lime or soda ash. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

No special measures required for environmental precautions.

No dangerous substances are released.

SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice.

Keep tightly closed in a dry, cool and well-ventilated place. Store at -20°C.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Engineering controls

Showers, eyewash stations, ventilation systems.

Personal protection

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.

Skin Protection: Wear protective gloves/clothing.

Eye Protection: Safety glasses with side-shields. Avoid contact with eyes.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-------------------------------|---|
| Physical Appearance: | Liquid |
| Odor: | None or odorless |
| Color: | Clear (non-ready-to-use version) or blue (ready-to-use version) |
| pH: | No information available |
| Boiling Point: | No information available |
| Melting Point: | No information available |
| Flash Point: | No information available |
| Flammability: | The preparation is not flammable / self-igniting |
| Vapor pressure: | No information available |
| Vapor density: | No information available |
| Specific gravity: | No information available |
| Water solubility: | No information available |
| Solubility in other solvents: | No information available |
| Partition coefficient: | No information available |
| Autoignition temperature: | No information available |
| Decomposition temperature: | No information available |

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| | |
|-----------------------|--------------------------|
| Kinematic viscosity: | No information available |
| Dynamic viscosity: | No information available |
| Explosive properties: | No information available |
| Oxidizing properties: | No information available |

SECTION 10: STABILITY AND REACTIVITY

| | |
|-------------------------------------|--|
| Stability: | Stable under storage conditions. Storage at room temperature may result in lowering of the specific activity, but not result in any hazardous reactions. |
| Conditions to avoid: | Extreme of temperature and direct sunlight |
| Materials to avoid: | No materials which may cause dangerous reactions. |
| Possibility of hazardous reactions: | No dangerous reactions known. |
| Hazardous Decomposition Products: | No dangerous decomposition products known. |

SECTION 11: TOXICOLOGICAL INFORMATION

Acute and chronic affects based on routes of exposure

| | |
|---------------|--|
| Eye contact: | Redness. May cause slight irritation. |
| Skin contact: | Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking. |
| Ingestion: | May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms including burning sensation, coughing, wheezing, shortness of breath, headache, nausea and vomiting. |
| Inhalation: | No data available |

When used and handled according to specifications, the product does not have any harmful effects.

| | |
|----------------------------|---|
| Skin sensitization: | No information available |
| Respiratory sensitization: | No information available |
| Germ cell mutagenicity: | No information available |
| Carcinogenic effects: | No information available |
| Reproductive toxicity: | No information available |
| STOT – Single exposure: | No information available |
| STOT – Repeated exposure: | No information available |
| Chronic toxicity: | No information available |
| Target organ effects: | Kidneys, eyes, skin, respiratory system |
| Other adverse effects: | No information available |

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SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

The preparation is considered not dangerous to the environment with respect to mobility, persistence and degradability, bioaccumulation, aquatic toxicity and other data relating to ecotoxicity.

Persistence and degradability:

No information available

Bioaccumulative potential:

No information available

Other adverse effects:

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

No special disposal methods required, except to be in accordance with federal, state and local environmental regulations

SECTION 14: TRANSPORT INFORMATION

This product is not dangerous, and no special precautions are needed according to ADR/RID (cross border), IMDG, DOT and IATA/ICAO.

SECTION 15: REGULATORY INFORMATION

International Inventory

TSCA Complies

United States Regulatory Information:

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.

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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)

Canada Regulatory Information:

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

EU Guidelines:

The preparation is not dangerous within the meaning of Directives 67/548/EC, 1999/45/EC, and 88/379/ECC, and is not labeled with danger symbols or indications of danger.

Export and Import of Dangerous Chemicals (Regulation (EC) No. 689/2008) Information

This substance is not listed in the Annex I of Regulation (EC) No. 689/2008.

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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