

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PR0624; PR0624-S

Product Name: Tricolor Broad Range Protein Ladder

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.	%
Water	7732-18-5	231-791-2	>50
Glycerol	56-81-5	200-289-5	10-25
Sodium Dodecyl Sulfate	51-21-3	205-788-1	1-3
Urea	57-13-6	200-315-5	<25
Tris-phosphate	6992-39-8	230-260-2	1-2

Other components:

Components not listed here are not dangerous or their concentrations do not exceed the limits specified in the EU directive 1999/45/EC.

SECTION 3: HAZARDS IDENTIFICATION

Classification of the substance

GHS / GLP Classification

The product is not classified as hazardous and dangerous according to Regulation (EC) No. 1272/2008.

DSD / DPD Classification

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

Label elements

Symbols: No symbol

Signal Word: Not dangerous

Hazards deriving from physical-chemical properties

The data available do not support any physical or chemical hazard.

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Human health hazards

Inappropriate handling may cause formation of aerosols. Inhalation of aerosols may cause allergic type reactions in sensitized individuals. Prolonged skin contact may cause minor irritation.

Caution: avoid inhalation, ingestion, and skin contacts.

Environmental hazards

The data available do not support any environmental hazard.

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, the product does not irritate the skin. If symptoms of irritation after prolonged exposure occur, consult a doctor.

In case of inhalation, move victim from area of exposure to fresh air. If symptoms of irritation or respiratory allergy occur, consult a physician.

In case ingestion, never give anything by mouth to an unconscious person. Rinse mouth with plenty of water. Consult a physician.

Physician should treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Not flammable.

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

Use water spray, carbon dioxide, dry chemical or appropriate foam to extinguish the fire.

As in any fire, wear self-contained breathing apparatus which approved by MSHA/NIOSH (or equivalent) and full protective gear.

Special exposure hazards from decomposition products not thoroughly investigated.

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, wear appropriate gloves, safety glasses to clean small releases/spillage. In case of vapor/aerosol formation, wear suitable respiratory protection means. Avoid contact with skin, eyes and clothing by using personal protective equipment as needed. Evacuate personnel to safe areas with adequate ventilation.

For environmental precautions, prevent further leakage or spillage if safe to do so for containment. Do not let product enter drains. Discharge into the environment must be avoided. Minimize entry of material into sewers and drainage systems; dispose all waste into a chemical waste container in accordance with applicable laws.

For cleaning up, absorb spillage with liquid-binding material. Pick up and transfer to properly labeled containers according to local regulations. Wash spill site and ventilate area after picking up is completed.

SECTION 7: HANDLING AND STORAGE

Handling

Handle in accordance with good industrial hygiene and safety practice. Use appropriate personal protection measures. Avoid direct contact with this product by using personal protective equipment as needed. Avoid the formation of aerosols. Ventilate area.

Storage

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

This product does not contain any relevant quantities of 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

No specific requirements relating to the preparation. Ensure adequate ventilation, especially in confined areas.

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Personal protection

Respiratory protection:	No special measures required.
Hand Protection:	Wear rubber gloves. No specific requirements to rubber.
Skin Protection:	Wear personal protective equipment as needed. No specific requirement.
Eye Protection:	Safety glasses are recommended during certain operations when aerosol formation is possible. Avoid contact with eyes.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Blue
Physical state:	Liquid
Odor:	Odorless
Relative density:	1g/cm ³
pH @ 25°C:	7.5
Boiling point:	100 °C
Flash point:	Not applicable
Flammability:	Not flammable
Explosive properties:	Not explosive
Oxidizing properties:	No applicable
Solubility in water:	Miscible
Fat solubility:	Not applicable
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Evaporation rate:	Not applicable
Viscosity:	Not viscous
Conductivity:	Not applicable

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:	No conditions which may cause dangerous reactions.
Materials to avoid:	Strong oxidizing agents, strong bases
Possibility of hazardous reactions:	No dangerous reactions known.
Hazardous decomposition products:	No dangerous decomposition products known.
Hazardous polymerization:	Will not occur.

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SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Eye contact:	Prolonged contact may cause irritation.
Skin contact:	Prolonged contact may cause irritation.
Ingestion:	Repeated ingestion or excessive dosage may cause irritation of the gastrointestinal tract.
Inhalation:	Inhalation of aerosols may cause allergic type reactions in sensitized individuals.

Glycerol

LD50 Oral: Rat: 12600 mg/kg

LD50 Dermal: Rat: 21900 mg/kg

Sodium dodecyl sulfate

LD50 Oral: Rat: 1288 mg/kg

LD50 Dermal: Rat: 580 mg/kg

LD50 Inhalation: Rat: 3900 mg/m³ 1 hour

Chronic toxicity

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

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

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:

The preparation is readily biodegradable.

Bioaccumulative potential:

It is considered that the preparation does not accumulate in biota and does not pass through the food chain.

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Other adverse effects:
No information available

SECTION 13: DISPOSAL CONSIDERATIONS

The disposal of the product does not present a danger.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

This product is not dangerous goods according to transport regulations. No additional transport regulations are known to the supplier.

IMDG: Non-hazardous for sea freight
ADR: Non-hazardous for road transport
RID: Non-hazardous for rail transport
ICAO/IATA: Non-hazardous for air transport

The product may be stored in ice during transportation.

SECTION 15: REGULATORY INFORMATION

United States Regulatory Information:

Avoid direct contact and inhaling this product.
SARA Listed: 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.

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

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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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