MATERIAL SAFETY DATA SHEET

VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: SD1101; SD1101-S
Product Name: Viva qGreen I Fluorescent Dye 20X in DMSO (equivalent to SYBR® Green Dye)

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@vivantechnologies.com
Website: www.vivantechnologies.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.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	%	Formula	Molecular Weight
Dimethyl Sulfoxide	67-68-5	200-664-3	>99%	C_2H_6OS	78.13
Green Dye	Not applicable	Not applicable	<1%	Not applicable	Not applicable

SECTION 3: HAZARDS IDENTIFICATION

Classification and labeling according to Regulation (EC) No. 1272/2008 [CLP]

None

Classification according to Directive 1999/45/EC

None

HMIS Classification

Health hazard: 0
Flammability: 2
Physical hazards: 0

NFPA Rating

Health Hazard: 0
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

In case of eye contact, may cause eye irritation.
In case of skin contact, may be harmful if absorbed through skin and cause skin irritation.
If inhaled, may be harmful and cause respiratory tract irritation.
If swallowed, may be harmful.

The substance not yet fully tested. To our knowledge, the hazards of this material have not been thoroughly investigated. We recommend handling all chemicals with caution.

SECTION 4: FIRST-AID MEASURES

The product is potentially harmful; avoid prolonged or repeated exposure. Wash thoroughly after handling.

In case of eye contact, wash thoroughly with water for up to 15 minutes. Seek medical assistance if there is persistent irritation.

In case of skin contact, wash with excess water. Seek medical assistance if irritation is persistent.

In case of inhalation, move individual to fresh air. Give artificial respiration if not breathing. Seek medical assistance if there are problems.

In case of ingestion, never give anything by mouth to an unconscious person. Rinse mouth with water provided the person is conscious. Seek medical assistance if there are problems.

SECTION 5: FIRE FIGHTING MEASURES

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

Use carbon dioxide, dry chemical or appropriate form.

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

Hazardous decomposition products formed under fire conditions: Carbon oxides, sulfur oxides.

SCTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, avoid inhaling this product and remove all sources of ignition. Avoid contact with skin, eyes and clothing by using personal protective equipment as needed.

For environmental precautions, prevent further leakage or spillage if safe to do so for containment. Do not allow product enter sewers and drainage systems; dispose all waste into a chemical waste container in accordance with applicable laws.

For cleaning up, absorb on inert absorbent material. Pick up and transfer to properly label closed containers for disposal 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. Avoid direct contact with skin and eyes by using personal protective equipment as needed.
Avoid formation of dust and aerosols. Avoid inhaling vapors, mist or gas. Provide appropriate exhaust ventilation at places where dust is formed.
Normal measures for preventive fire protection.

Storage

Keep containers tightly closed in a dry, cool, dark and well-ventilated place to protect product quality. Desiccation required.
Store at 4°C for daily use or frequent use; store at -20°C for long term use.
Protect material from long-term exposure to light; may be exposed to light for short periods of time.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Country	USA - NIOSH	USA - OSHA	Australia	UK	EU
Limit value 8hrs	-	-	-	-	-
Limit value short term	-	-	-	-	-

Respiratory protection	Irritation may experience if exceeded exposure limits. NIOSH/MSHA approved respiratory protection should be worn at all time. Respiratory protection must be provided in accordance with current local regulations. Use process enclosures, local exhaust ventilation, or other engineering controls as needed.
Eye/Face protection	Wear tightly fitted safety goggles with side-shields. Where contact with the eyes is likely, use chemical goggles.
Hand Protection	Use chemical-resistant gloves as needed. Gloves must be inspected prior to use. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Skin and body protection	Wear clean protective body covering clothing as needed to minimize contact with clothing and skin.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light pink
Physical state:	Liquid
Odor:	No data available
Odor threshold:	No data available
Relative density:	No data available
pH:	7-9
Melting point:	No data available
Freezing point:	No data available
Boiling point:	No data available
Flash point:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Flammability:	No data available
Explosive properties:	No data available
Explosive limits:	No data available
Oxidizing properties:	No data available
Solubility in water:	Yes
Partition coefficient:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Evaporation rate:	No data available
Viscosity:	No data available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid:	No data available.
Thermal Decomposition:	Carbon oxides, sulfur oxides.
Hazardous decomposition products:	No data available.
Hazardous polymerization:	No data available.
Conditions to avoid:	Protect from heat, flames and sparks.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	Dimethyl Sulfoxide	Green Dye
Oral LD50	Rat – 14500 mg/kg	No data available
Inhalation LC50	Rat – 40250 ppm – 4h	No data available
Dermal LD50	Rabbit – >5000 mg/kg	No data available

Skin irritation: No data available.
Skin corrosion: No data available.
Respiratory or skin sensitization: No data available.
Serious eye damage/eye irritation: No data available.
Reproductive toxicity: Dimethyl sulfoxide shows reproductive toxicity effects on laboratory animals in experiments.
Aspiration hazard: May cause respiratory irritation.

Specific target organ toxicity – single exposure (GHS): No data available.
Specific target organ toxicity – repeated exposure (GHS): No data available.

Carcinogenicity

IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product presents at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product presents at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ cell mutagenicity – Bacterial Reverse Mutation Screening Assay (Ames assay)

Negative with or without activation on Salmonella typhimurium assay. DMSO is used as a neutral solvent in the Ames mutagen test.

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
RTECS: PV6210000 (DMSO)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The LC50 (96hr) of DMSO for ten species of fish range from 32500 to 43000rpm

Persistence and degradability:	No information available.
Biodegradation:	DMSO – 90% (28days).
Mobility in soil:	No information available.
Results of PBT and vPvB assessment:	No information available.
Other adverse effects:	No information available.

To the best of our knowledge, the environmental impact of this product has not been fully investigated.

SECTION 13: DISPOSAL CONSIDERATIONS

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. Do not allow product to reach ground water, water course, or sewage system. The packaging of this product and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable federal, state and local regulations.

SECTION 14: TRANSPORT INFORMATION

IATA, IMDG, DOT (US):	Not classified as dangerous good in the meaning of transport regulations.
Hazard Class:	None.
Identification Number:	None.
Packing Group:	None.
Proper Shipping Name (Technical Name):	None.
Environmental Hazards:	None.
Special Precaution for User:	None.

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations

US Toxic Substances Control Act (TSCA):	Not listed.
SARA 302:	No chemicals were found.
SARA 311/312 Hazard Categories:	(DMSO) fire hazard, chronic health hazard
SARA 313:	No chemicals were found.
Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	Yes
Sudden Release of Pressure Hazard:	No
Reactive Hazard:	No

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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