

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PC0716-100mg; PC0716-1g

Product Name: X-Gal (5-Bromo-4-Chloro-3-Indoyl-beta-D-galactopyranoside)

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@vivanttechnologies.com

Website: www.vivanttechnologies.com

Company Manufacturing:

Vivantis Technologies Sdn Bhd
Level 1, Enterprise 2,
Technology Park Malaysia,
Lebuhraya Puchong-Sg. Besi,
57000 Bukit Jalil,
Kuala Lumpur, Malaysia.

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EC No.	%	GHS Classification
5-Bromo-4-Chloro-3-Indodyl-beta-D-galactopyranoside)	7240-90-6	230-640-8	100	Acute Tox. (O) 4: H302 Acute Tox. (I) 4: H332 Acute Tox. (D) 4: H312

Synonyms: 5-bromo-4-chloro-1H-indol-3-yl-β-D-galactopyranoside

Chemical formula: C₁₄H₁₅BrClNO₆

Molecular weight: 408.6

SECTION 3: HAZARDS IDENTIFICATION

GHS Classification according to Regulation (EC) No 1272/2008 [CLP]

Acute Toxicity, Inhalation – Category 4
 Acute Toxicity, Oral – Category 4
 Acute Toxicity, Skin – Category 4

GHS Label elements, including precautionary statements



Signal word: Warning

Hazard statements

H332 Harmful if inhaled.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
 P264 Wash hands thoroughly after handling.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P362+364 Take off contaminated clothing and wash it before reuse.
 P304+340 If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.

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- P312 Call a poison center or doctor if you feel unwell.
 P301+312 If swallowed, call a poison center or doctor/physician if you feel unwell.
 P330 Rinse mouth.
 P302+352 If on skin, wash with plenty of soap and water.

Adverse Human Health Effects and Symptoms

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation, ingestion or skin absorption.

May cause eye, skin or respiratory system irritation.

SECTION 4: FIRST-AID MEASURES

In case of eye contact, hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In case of inhalation, move to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In case of ingestion, wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do not induce vomiting unless directed to do so by medical personnel.

SECTION 5: FIRE FIGHTING MEASURES

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

Use water spray, alcohol-resistant foam, dry chemical spray or carbon dioxide. A solid water stream may be inefficient.

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

Hazardous decomposition products formed under fire conditions: No data available.

Flash point: No data available.

Explosion data – sensitivity to mechanical impact: No data available.

Explosion data – sensitivity to static discharge: No data available.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, wear a NIOSH approved self-contained breathing apparatus, or respirator and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves). Avoid raising and breathing dust and provide adequate ventilation.

For environmental precautions, take steps to avoid release into the environment, if safe to do so.

For cleaning up, contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

SECTION 7: HANDLING AND STORAGE

Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated exposure.

Keep containers tightly closed. Store in accordance with information listed on the product insert.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection	NIOSH approved respirator, as conditions warrant.
Eye/Face protection	Wear eye protection such as safety glasses.
Hand protection	Compatible chemical-resistant gloves.
Body protection	Wear lab coat.

Use engineering measures such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Crystalline
Physical state:	Solid
Odor:	No information available
Odor threshold:	No information available
Density:	No information available
pH:	No information available
Melting point:	No information available
Freezing point:	No information available
Initial Boiling point:	No information available
Boiling point:	No information available
Flash point:	No information available
Autoignition temperature:	No information available
Decomposition temperature:	No information available

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Upper Flammability limit in air:	No data available
Lower Flammability limit in air:	No data available
Oxidizing properties:	No information available
Solubility:	~0.5 mg/ml in 1:1 DMSO:PBS (pH 7.2); ~30 mg/ml in DMSO & DMF
Partition coefficient (n-octanol/water):	No data available
Vapor pressure:	No information available
Vapor density:	No data available
Evaporation rate:	No data available
Specific gravity:	No data available
Viscosity:	No information available
Specific gravity:	1.080
Solubility:	No data available
Viscosity:	No information available
Vapor density:	No data available
Density:	No data available
Partition coefficient (n-octanol/water):	No data available
Evaporation rate:	No data available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid:	Strong oxidizing agents
Hazardous decomposition products:	Carbon dioxide, carbon monoxide, hydrogen bromide gas, hydrogen chloride gas, nitrogen oxides
Hazardous polymerization:	Hazardous polymerization does not occur.
Conditions to avoid:	None known based on information supplied

SECTION 11: TOXICOLOGICAL INFORMATION

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

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SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

Persistence and biodegradability:	No data available.
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Results of PBT and vPvB assessment:	No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose waste material in accordance with all federal, state and local environmental regulation.

SECTION 14: TRANSPORT INFORMATION

DOT

Not dangerous goods.

ADR/RID

Not dangerous goods.

IATA

Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

International Inventories

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

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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 contains a chemical or 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	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)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutant (HAPs) under Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulations

California Proposition 65 This product contains the following Proposition 65 chemicals:

International Regulations

Mexico – Grade No information available.

Canada

WHMIS Hazard Class

Not determined.

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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

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