

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

Document No.: MSDSrev05_PR0603

Date prepared: 10th January 2023

Reviewed: 10th January 2023

SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PR0603-100G; PR0603-500G; PR0603-1kG

Product Name: Acrylamide

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.

Pairing Nature with
Scientific Discoveries

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%
Acrylamide	79-06-1	95-100%

SECTION 3: HAZARDS IDENTIFICATION

WHMIS Classification

D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A	Very Toxic Material Causing Other Toxic Effects	Toxic by inhalation
D2B	Toxic Material Causing Other Toxic Effects	Chronic toxicity
		Carcinogen
		Reproductive hazard
		Moderate skin irritant
		Moderate eye irritant
		Skin sensitizer
		Mutagen

GHS Classification

Acute toxicity, oral-	Category 3
Toxicity, inhalation-	Category 4
Toxicity, dermal-	Category 4
Skin irritation-	Category 2
Eye irritation-	Category 2A
Skin sensitization-	Category 1
Germ cell mutagenicity-	Category 1B
Carcinogenicity-	Category 1B
Reproductive toxicity-	Category 2
Specific target organ toxicity, repeated exposure, oral-	Category 1
Peripheral nervous system, acute aquatic toxicity-	Category 3

GHS Label elements, including precautionary statements



Signal word: Danger

Pairing Nature with
Scientific Discoveries

Hazard statements

H301	Toxic if swallowed
H312+H332	Harmful in contact with skin or if inhaled
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H340	May cause genetic defects
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs (peripheral nervous system) through prolonged or repeated exposure if swallowed
H402	Harmful to aquatic life

Precautionary statements

P201	Obtain special instructions before use
P280	Wear protective gloves/protective clothing
P301+P310	If swallowed, immediately call a poison center or doctor
P305+P351+P338	If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	If exposed or concerned, get medical advice/attention

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	1
Physical Hazard:	0

Potential Health Effects

In case of inhalation, may cause respiratory tract irritation. Toxic.
 In case of skin contact, may causes skin irritation.
 In case of eye contact, may causes eye irritation.
 In case of ingestion, may be toxic.

Pairing Nature with
Scientific Discoveries

SECTION 4: FIRST-AID MEASURES

In case of eyes contact, rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact, wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Take victim immediately to hospital, consult a physician.

In case of inhalation, remove victim from area of exposure to fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of ingestion, never give anything by mouth to an unconscious person. Rinse mouth and throat thoroughly with water. Consult a doctor.

SECTION 5: FIRE FIGHTING MEASURES

Not flammable or combustible.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, carbon dioxide, dry chemical powder or appropriate foam.

As in any fire, wear self-contained breathing apparatus for firefighting if necessary.

Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides

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

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For environmental precautions, prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

For cleaning up, pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Keep tightly closed in a dry, cool and well-ventilated place.

Light sensitive. Keep in a dry place.

Pairing Nature with
Scientific Discoveries

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	Value	Control parameters
Acrylamide (79-06-1)	TWA (ACGIH TLV)	0.03 mg/m ³
	TWA (OSHA PEL)	0.3 mg/m ³ (vacated)
		0.03 mg/m ³ (skin)
	IDLH (NIOSH)	60 mg/m ³
	TWA (NIOSH)	0.03 mg/m ³

Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves' outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Skin and body protection	Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Eye protection	Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).

Use mechanical exhaust or laboratory fume hood to avoid exposure. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling product.

Pairing Nature with
Scientific Discoveries

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White
Physical appearance:	Powder
Odor:	None or odorless
Odor threshold:	No information available
Density:	No information available
pH:	5.2 – 6 at 500g/l
Melting point:	82-86°C
Boiling point:	125°C at 33hPa (25mmHg)
Flash point:	138°C
Auto-ignition temperature:	No information available
Ignition temperature:	424°C
Explosion limit:	No information available
Water solubility:	200 g/l at 20°C
Partition coefficient:	log Pow: -0.67 n-octanol/water
Vapor pressure:	2.1 hPa (1.6 mmHg) at 84.5°C 0.04 hPa (0.03 mmHg) at 40°C 0.09 hPa (0.0675 mmHg) at 25°C
Relative vapor density:	2.45
Evaporation rate:	No information available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid:	Acids, oxidizing agents, iron and iron salts, copper, brass, free radical initiators
Possibility of hazardous reactions:	No dangerous reactions known.
Hazardous decomposition products:	Carbon oxides, nitrogen oxides
Conditions to avoid:	No conditions which may cause dangerous reactions.

Pairing Nature with
Scientific Discoveries

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50: Rat – 177mg/kg
 Inhalation LC50: Rat – 4hrs - >1500mg/m³
 Dermal LD50: Rabbit – 1141mg/kg

Skin corrosion / irritation: Rabbit – no skin irritation (OECD Test Guideline 404)
 Serious eye damage / eye irritation: Rabbit – irritating to eyes (OECD Test Guideline 405)
 Respiratory or skin sensitization: Maximization Test (GPMT) – Guinea pig
 (OECD Test Guideline 406) – May cause allergic skin reaction.
 Germ cell mutagenicity: May alter genetic material. In vivo tests showed mutagenic effects.
 Carcinogenic effects: This product contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH NTP, or EPA classification. Possible human carcinogen.
 IARC: Group 2A, probably carcinogenic to humans
 Reproductive toxicity: May cause reproductive disorders. Suspected human reproductive toxicant
 Teratogenicity: Animal testing did not show any effects on fetal development
 Aspiration hazard: No information available
 Synergistic effects: No information available

Specific target organ toxicity – single exposure: No data available
 Specific target organ toxicity – repeated exposure: Oral; cause damage to organs – peripheral nervous system

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

RTECS: AS3325000

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

This product is harmful to aquatic life.

LC50: Fish – Pimephales promelas (fathead minnow) – 90mg/l – 96hrs
 EC50: Daphnia magna (Water flea) – 160mg/l – 48hrs
 NOEC: Fish – Cyprinus carpio (Carp) – 5mg/l – 28days
 Daphnia magna (Water flea) – 60mg/l – 48hrs

Pairing Nature with
Scientific Discoveries

Persistence and degradability:	100% readily biodegradable (OECD Test Guideline 301D)
Bioaccumulative potential:	Oncorhynchus mykiss (rainbow trout) – 72hrs Bioconcentration factor (BCF) – 1.65
Mobility in soil:	No data available
PBT and vPvB assessment:	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

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

For contaminated packing too dispose in accordance with all federal, state and local environmental regulation.

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Observe all federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN no.: 2074	Class 6.1	Packing group: III	EMS-No: F-A, S-A
Proper shipping name:	Acrylamide, Solid		
Marine pollutant:	No		

DOT (US)

UN no.: 2074	Class 6.1	Packing group: III
Proper shipping name:	Acrylamide, solid	
Reported Quantity:	5000lbs	
Marine pollutant:	No	
Poison Inhalation Hazard:	No	

IATA

UN number: 2074	Class 6.1	Packing group: III
Proper shipping name:	Acrylamide, solid	

Pairing Nature with
Scientific Discoveries

SECTION 15: REGULATORY INFORMATION

Canada Regulatory Information:

WHMIS Classification

D1B	Toxic Material Causing Immediate and Serious Toxic Effects	Toxic by ingestion
D2A	Very Toxic Material Causing Other Toxic Effects	Toxic by inhalation
D2B	Toxic Material Causing Other Toxic Effects	Chronic toxicity Carcinogen Reproductive hazard Moderate skin irritant Moderate eye irritant Skin sensitizer Mutagen

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.

All Vivantis products are supplied for manufacturing, research and laboratory use only. Researchers and laboratory personnel intending to use any of these products for medical investigation on human are solely responsible for such use and for compliance with the pertinent regulations of the United States Food & Drug Administration (US-FDA) and other regulations. We do not assume liability for damages resulting from the handling, use and/or disposal of these products, from their use in violation of patent or other rights or reliance upon this information.

Pairing Nature with
Scientific Discoveries