

MATERIAL SAFETY DATA SHEET

**VIVANTIS TECHNOLOGIES SDN BHD
REVONGEN CORPORATION CENTER**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PR0607-500g ; PR0607-1kg

Product Name: Boric Acid

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.
N,N'-methylenebisacrlamide	110-26-0	-

Chemical formula: H_3BO_3
Molecular weight: 61.83g/mol

SECTION 3: HAZARDS IDENTIFICATION

GHS Classification

Reproductive toxicity-

Category 1B

GHS Label elements, including precautionary statements



Signal word: Danger

Hazard statements

H360 May damage fertility or the unborn child.

Precautionary statements

P201 Obtain special instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 If exposed or concerned, get medical attention/advice

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SECTION 4: FIRST-AID MEASURES

In case of contact with eyes, rinse thoroughly with plenty of flowing water for at least 15 minutes and consult an ophthalmologist. Remove contact lenses if present and continue rinsing.

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

In case of inhalation, move to fresh air and keep warm and at rest. If breathing become difficult or stopped, give artificial respiration. Call a poison center or doctor if necessary.

In case of ingestion, clean mouth with plenty of water if the person is conscious. Do not induce vomiting and get immediate medical attention. Do not eat or drink anything.

In case of accidental exposure or feeling unwell, consult a physician. Change contaminated clothing. Place in recovery position if unconscious and seek medical advice. Give nothing to eat or drink to an unconscious person.

SECTION 5: FIRE FIGHTING MEASURES

Not flammable.

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

Use water spray, regular foam, dry chemical or carbon dioxide.

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

Hazardous decomposition products formed under fire conditions: Pyrolysis products

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, use personal protective equipment. Avoid dust formation.

For environmental precautions, prevent further leakage or spillage into surface of water or drains.

For cleaning up, pick up and collect in closed and suitable containers. Ventilate area and wash spill site after material pickup is done. Do not return spilled product into the original container.

SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice. Store at ambient temperature. Keep containers tightly closed in a well-ventilated place.

Working area must be ventilated with local exhaust ventilation or technical means if the former is not possible.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection	Where risk assessment shows exposure limits are exceeded or irritation is experienced, use a full-face particle respirator tested and approved under appropriate government standards such as NIOSH. Respiratory protection is necessary under aerosol or mist formation circumstances.
Hand protection	Handle with suitable 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. For short-term hand contact, use 0.12mm nitrile rubber glove with > 480 minutes breakthrough time. For long-term hand contact, use 0.38mm nitrile rubber glove with > 480 minutes breakthrough time.
Eye/face protection	Use eyeglasses with side protection.

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:	White
Physical state:	Solid
Odor:	No data available
Odor threshold:	No data available
pH:	3.7 (46 g/L; H ₂ O; 20°C)
Melting point:	160°C
Freezing point:	No information available
Initial boiling point:	185°C (1013 hPa)
Boiling point:	No data available
Flash point:	Not data available
Auto-ignition temperature:	No data available
Decomposition temperature:	185°C (1013 hPa)
Flammability (solid, gas):	Not applicable
Upper exposure limits:	No data available
Lower explosive limits:	No data available
Explosive properties:	Not applicable

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Oxidizing properties:	Not applicable
Solubility (in water):	46.5 g/L (20°C)
Solubility (in Ethanol):	No data available
Partition coefficient: (n-octanol/water)	0.757 (20°C)
Vapor pressure:	2.7 hPa (20°C)
Vapor density:	No data available
Relative density:	1.44 g/cm ³ (25°C)
Bulk density:	1.44 g/cm ³ (25°C)
Kinematic viscosity:	No data available
Dynamic viscosity:	No data available
Refraction index:	1.462 (589 nm; 25°C)
Dissociation constant:	No data available
Surface tension:	No data available
Henry constant:	No data available

SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions. Store under standard ambient conditions (room temperature).

Materials to avoid:	No data available.
Hazardous decomposition products:	No data available.
Hazardous reaction:	No data available.
Conditions to avoid:	No data available.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50:	Rat – >2660 mg/kg (RTECS)
Dermal LD50:	Rat – <2000 mg/kg (IUCLID)
Inhalation LD50:	Rat – >0.16 mg/L (IUCLID)

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Primary skin corrosion/irritation:	Not applicable
Eye damage/eye irritation:	Not applicable
Respiratory tract irritation:	Not applicable
Respiratory sensitization:	after inhalation – not sensitizing
Skin sensitization:	after skin contact – not sensitizing
Germ cell mutagenicity:	No sign of human germ cell mutagenicity exists.
Reproductive toxicity:	May damage fertility or the unborn child.
Teratogenicity:	No data available
Aspiration hazard:	Not applicable
Other adverse effects:	No data available
Carcinogenicity:	No data available

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

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

This product is harmful to aquatic organisms.

LC50:	Fish – 487mg/L – 96hrs
	Daphnia magna (water flea) – 180mg/L – 48hrs
	Mysidopsis bahia – 91mg/L – 48hrs
EC50:	Daphnia magna (water flea) – 226mg/L – 48hrs

Persistence and degradability:	No data available
Bioaccumulative potential:	Partition coefficient (n-octanol/water) – 0.757 (20°C)
Mobility in soil:	No data available
PBT and vPvB assessment:	No data available

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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.

Observe all federal, state and local environmental regulations.

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SECTION 14: TRANSPORT INFORMATION

DOT (US)

No dangerous products.

IATA-DGR/ ICAO-TI

No dangerous products.

IMDG

No dangerous products.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code not relevant.

SECTION 15: REGULATORY INFORMATION

U.S Federal Regulations

SARA 313	Not listed
California Proposition 65	Not listed
Massachusetts Right To Know	Not listed
Pennsylvania Right To Know	Not listed

SECTION 16: OTHER INFORMATION

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