

**MATERIAL SAFETY DATA SHEET
VIVANTIS TECHNOLOGIES SDN BHD**

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SECTION 1: CHEMICAL IDENTIFICATION

Catalogue Number: PC0927-100g
Product Name: 2-(N-Morpholino) Ethanesulfonic Acid (MES)

Intended Use:
For research use only. Not for use in diagnostic procedures.

Company Address:

Vivantis Technologies Sdn Bhd
No. 12A, Jalan TP5,
Taman Perindustrian UEP,
47600 Subang Jaya,
Selangor Darul Ehsan, Malaysia.
Tel: +6 016 226 0492
Email: info@vivanttechnologies.com
Website: www.vivanttechnologies.com

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENT

Chemical Name	CAS No.	EC No.
2-(N-Morpholino) Ethanesulfonic Acid	145224-94-8	-

Synonyms: MES (Buffering Agent); Morpholino Ethanesulfonic acid; 2-morpholnoethanesulfonic acid

GHS Classification

Skin irritant - Category 2
 Eye irritant - Category 2

GSH Label elements, including precautionary statements:



Signal word: Warning

Hazard statements

H315 Causes skin irritation
 H319 Causes serious eye irritation
 H335 May cause respiratory irritation

Precautionary statements

P280 Wear protective gloves/ clothing/ eye protection/ face protection.
 P302 + P352 Wash with plenty of soap and water if on skin.
 P304 + P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing if inhaled.
 P305 + P351 + P338 Rinse cautiously with water for several minutes if contact with eyes. Remove contact lens present and easy to do. Continue rinsing.

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

In case of inhalation, move to fresh air. If not breathing, give artificial respiration.

In case of ingestion, rinse mouth with water and afterwards drink plenty of water. Never give anything by mouth 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 dry chemical, carbon dioxide, regular foam or water spray.

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

Hazardous decomposition products formed under fire conditions: Nitrogen oxides, sulfur oxides, carbon oxides

Flash point: Not determined.

Explosion data – sensitivity to mechanical impact: Not sensitive.

Explosion data – sensitivity to static discharge: Not sensitive.

SECTION 6: ACCIDENTAL RELEASE MEASURES

For personal protection, use personal protective equipment. Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing.

For environmental precautions, prevent further leakage or spillage if safe to do so for containment.

For cleaning up, avoid dust formation. Pick up and transfer to properly labeled containers. Wash spill site after material pickup is done and ventilate area.

SECTION 7: HANDLING AND STORAGE

Handle in accordance with good industrial hygiene and safety practice.

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

Incompatible with strong oxidizing agents.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory protection	Where exposure limits are exceeded, wear respiratory protection. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Positive pressure-supplied air respirators may be required for high airborne contamination concentrations.
Eye/face protection	Use safety glasses with side-shields. Avoid contact with eyes.
Skin and body protection	Wear protection gloves/clothing.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to off-white
Physical state:	Crystalline powder
Odor:	No information available
Odor threshold:	No information available
pH:	No data available
Melting point:	No data available
Boiling point:	No data available
Initial boiling point:	No information available
Freezing point:	No information available
Flash point:	Not determined
Decomposition temperature:	No information available
Auto-ignition temperature:	No data available
Upper flammability limits in air:	No data available
Lower flammability limits in air:	No data available
Explosive properties:	No information available
Oxidizing properties:	No information available
Water Solubility:	No information available
Partition coefficient (n-octanol/water):	No data available
MMHG @ 37.8°C:	No data available
Vapor density:	No information available
Evaporation rate:	No data available
Specific gravity:	No data available
Viscosity:	No information available

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SECTION 10: STABILITY AND REACTIVITY

Stable under recommended storage conditions.

Materials to avoid: Strong oxidizing agents
Hazardous decomposition product: Carbon oxides, sulfur oxides, nitrogen oxides
Hazardous polymerization: Do not occur
Condition to avoid: None known based on information supplied

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity

This product may cause irritation to eye, skin and respiratory system.

Chronic toxicity

This product has no known effects to target organ based on information supplied.

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

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORT INFORMATION

DOT

Not regulated.

IATA

Not regulated.

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SECTION 15: REGULATORY INFORMATION

International inventories

TSCA	Do not comply
DSL/NDSL	Do not comply
EINECS/ELINCS	Do not comply
ENCS	Do not comply
IECSC	Do not comply
KECL	Do not comply
PICCS	Do not comply
AICS	Do not comply

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 Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
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)

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

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

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Canada

WHMIS Hazard Class

D2B Toxic materials



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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