BIOSPECTRA
Premium Pharmaceutical Ingredients

MES Monohydrate

Safety Data Sheet

According to Regulation (EC) 1272/2008

SECTION 1 - Chemical Product and Company Identification

1.1 Product Identifiers

Product Name	:	MES, Monohydrate
CAS#	:	145224-94-8
EC#	:	224-632-3
RTECS#	:	QE3479500
REACH#	:	01-2120768754-40-0008

1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical manufacturing

1.3 Company Identification

Supplier

BioSpectra, Inc. 100 Majestic Way
Bangor, PA 18013
T: 610.599.3400
ehs@biospectra.us

1.4 Emergency Numbers

Emergency Numbers	:	US & Canada: 1-800-424-9300 Outside the US & Canada: +1 703-527-3887

SECTION 2 – Hazard Identification

2.1 Classification of Substance or Mixture

Classified as a hazard per the Regulation (EC) 1272/2008
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2
Specific Target Organ Toxicity (single exposure) Category 3

2.2 GHS Label Elements Including Precautionary Statements

Pictogram :

Signal Word : Warning

Hazard Statement(s)
: H315 - Causes skin irritation.
: H319 - Causes serious eye irritation.
: H335 - May cause respiratory irritation.

Precautionary Statement(s)
: P261 - Avoid breathing dust/fume/gas/vapors/spray.
: P264 - Wash face, hands and any exposed skin thoroughly after handling.
: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
: P302+P332 – IF ON SKIN: Wash with plenty of water.

: 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+P311 - If exposed or concerned: Get medical advice/attention.
: P403+P223 - Store in a well-ventilated place. Keep container tightly closed.
: P501 - Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not Classified or not Covered by the GHS

None

SECTION 3 – Composition, Information on Ingredients

Synonyms	:	4-Morpholineethanesulfonic Acid Monohydrate; 2-(N-Morpholino) Ethane Sulfonic Acid
Molecular Formula	:	$C_6H_{13}NO_4S$. H_2O
Molecular Weight	:	213.25 g/mol
CAS Number	:	145224-94-8
EC Number	:	224-632-3

SECTION 4 - First Aid Measures

4.1 Description of Necessary First Aid Measures

Eyes	:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid if irritation develops.
Skin	:	Wash with soap and flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion	:	Never give anything by mouth to an unconscious person. If victim is conscious rinse out mouth with water. Get medical attention.
Inhalation	:	Remove to fresh air. If not breathing give artificial respiration.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Refer to Section 2.2 for Precautionary Statements if any are applicable

4.3 Indication of Immediate Medical Attention and Special Treatment

No information available.

SECTION 5 - Firefighting Measures

5.1 Extinguishing Media

In case of fire, use water, dry chemical, chemical foam, or Carbon Dioxide.

5.2 Specific Hazards Associated with this Chemical

Carbon Oxides, Nitrogen Oxides (NOx), Sulphur Oxides

5.3 Special Equipment/Precautions for Firefighters

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Explosion will appear as fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.4 Other Information

None available.

SECTION 6 - Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Use proper Personal Protective Equipment as indicated in Section 8. Avoid dust formation. Avoid breathing vapors, mist or gas.

6.2 Environmental Precautions

Do not allow to enter drains

6.3 Methods and Materials for Containment and Cleaning Up

Remove all sources of ignition. Do not let enter drains. Ventilate area of leak or spill. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

6.4 Other Information

None available.

SECTION 7 – Handling and Storage

7.1 Precautions for Safe Handling

Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for Storage Including any Incompatibilities

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

7.3 Other Information

None available.

SECTION 8 – Exposure Controls, Personal Protection

8.1 Control Parameters

Chemical does not contain any substances with occupational exposure limits.

8.2 Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, fordetails.

8.3 Personal Protective Equipment

Eyes
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin
Wear appropriate protective gloves to prevent skin exposure.

Clothing
Wear appropriate protective clothing to prevent skin exposure.

Respirator
Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. A respiratory protection program that meets OSHA's 29 CFR '1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

SECTION 9- Physical and Chemical Properties

9.1 Chemical Property Information

Physical State	:	Solid
Appearance	:	White Crystalline Powder
Odor	:	Odorless
pH	:	3.5-5.5 (0.5M sol.)
Vapor Pressure	:	Negligible
Vapor Density	:	Not applicable
Viscosity	:	Not available
Melting Point	:	>300C (>527F)
Boiling Point	:	Not applicable
Decomposition Temperature	:	Not applicable
Specific Gravity/Density	:	Not available
Solubility	:	Not available
Molecular Weight	:	213.25 g/mol
Molecular Formula	:	$C_6H_{13}NO_4S$. H_2O

SECTION 10 - Stability and Reactivity

10.1 Chemical Stability

Stable under normal temperatures and pressures.

10.2 Conditions to Avoid

Incompatible materials, dust generation, excess heat and ignition sources.

10.3 Incompatibilities with Other Materials

Strong oxidizers.

10.4 Hazardous Decomposition Products

Oxides of carbon, sulfur and nitrogen may form when heated to decomposition.

10.5 Hazardous Polymerization

Will not occur.

SECTION 11 - Toxicological Information

11.1 Toxicological Effects

CAS#	:	145224-94-8 unlisted.
LD50/LC50	:	Not available.
Carcinogenicity	:	CAS# 145224-94-8 Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology	:	Not available
Teratogenicity	:	Not available
Reproductive Effects	:	Not available
Neurotoxicity	:	Not available
Mutagenicity	:	Not available
Other Studies	:	Not available

11.2 Additional Information

RTECS#: : QE3479500

To the best of our knowledge the associated physical, chemical and toxicological properties of this chemical have not undergone thorough investigation, all known information is contained in this SDS.

SECTION 12 - Ecological Information

12.1 Ecotoxicity

Not available.

12.2 Persistence and Degradability

No information available.

12.3 Bioaccumulative Potential

No information available.

12.4 Mobility in Soil

No information available.

12.5 Results of PBT and vPvB Assessment

PBT/vPvB Assessment not available as Chemical Safety Assessment not required/not conducted.

12.6 Other Adverse Effects

No information available.

SECTION 13 – Disposal Considerations

13.1 Disposal Methods

Dispose of in a manner consistent with Federal, State, and Local Regulations.

SECTION 14 – Transport Information

Regulation	US DOT	IATA	IMDG	ADR
Shipping Name:	Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods	Not Dangerous Goods
Hazard Class:				
UN Number:				
Packing Group:				

SECTION 15 – Regulatory Information

15.1 EHS Chemical Specific Regulations

SARA:

SARA Section 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 : Skin Corrosion/Irritation/Serious Eye Damage/Eye Irritation/Specific Target Organ Toxicity (single exposure)

STATE SPECIFIC:

Pennsylvania Right to Know Components	:	4-Morpholineethanesulfonic Acid Monohydrate	CAS-No.145224-94-8.
New Jersey Right to Know Components	:	4-Morpholineethanesulfonic Acid Monohydrate	CAS-No.145224-94-8.
California Prop. 65 Components	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	

SECTION 16 – Additional Information

16.1 Hazard Ratings

NFPA Classification	
Health Hazard	2
Flammability	0
Reactivity Hazard	0