



SECTION 1 - Chemical Product and Company Identification

1.1 Product Identifiers

Product Name	:	MOPS
CAS #	:	1132-61-2
EC#	:	214-478-5
RTECS#	:	QE9104530
REACH#	:	01-2120747747-40-0007

1.2 Recommended Use of the Chemical and Restrictions of Use

Chemical manufacturing.

1.3 Supplier Details

Supplier	:	BioSpectra, Inc. 100 Majestic Way Bangor, PA 18013 T: 610-599-3400 ehs@biospectra.us
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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 the Substance or Mixture

GHS Classification in accordance with 29 CFR 1910 and Regulation (EC) No 1272/2008 (EU-GHS/CLP):

Skin irritation (Category 2)	:	H315
Eye irritation (Category 2)	:	H319
Specific target organ toxicity: single exposure (Category 3), Respiratory system	:	H335

2.2 GHS Label Element Including Precautionary Statements

Pictogram(s)	:	
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/mist/vapors/spray. P264 - Wash skin thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area.

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- : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- : P302 +P352 - IF ON SKIN: Wash with plenty of soap and water.
- : P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- : P305 +P351 +P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- : P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
- : P332 + P313 - If skin irritation occurs: Get medical advice/attention.
- : P337 + P313 - If eye irritation persists: Get medical advice/attention.
- : P321 - Specific Treatment (See supplemental first aid instructions on this SDS).
- : P362 - Take off contaminated clothing and wash before reuse.
- : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- : P405 - Store locked up.
- : P501 - Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not Classified or not Covered by the GHS

Not Applicable.

SECTION 3 - Composition, Information on Ingredients

3.1 Substances

Component	Classification	Concentration
4-Morpholinopropanesulfonic acid	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H315, H319,H335	≤100%

Synonyms	: 3-(N-Morpholino) Propanesulfonic Acid; 4-Morpholinepropanesulfonic Acid
Molecular Formula	: C ₇ H ₁₅ NO ₄ S
Molecular Weight	: 209.26 g/mol.
CAS#	: 1132-61-2
EC#	: 214-478-5

SECTION 4 - First Aid Measures

4.1 Description of Necessary First Aid Measures

General Advice	: Remove from dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
Eyes	: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Skin	: Immediately wash with plenty of soap and water. Get medical attention.
Ingestion	: Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to an unconscious person. If victim is conscious wash out mouth with water. Get medical attention.
Inhalation	: Remove from exposure to fresh air immediately. If not breathing provide artificial respiration. If breathing is difficult supply oxygen. Get immediate medical attention.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Refer to Section 2.2 for Precautionary Statements if applicable.

4.3 Indication of Immediate Medical Attention and Special Treatment

Not Applicable.

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SECTION 5 - Firefighting Measures

5.1 Extinguishing Media

Water spray, dry chemical, alcohol-resistant foam, or Carbon Dioxide.

5.2 Specific Hazards Associated with this Chemical

Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides.

5.3 Special Equipment/Precautions for Firefighters

May be combustible at high temperatures. 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.

5.4 Other Information

Not Applicable.

SECTION 6 - Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use proper personal protective equipment as indicated in Section 8. Avoid formation of dust. Avoid breathing any vapors, mist or gas.

6.2 Environmental Precautions

Prevent any additional leakage or spillage if safe to do so. Do not allow to enter drains. Do not discharge to the environment.

6.3 Methods and Materials for Containment and Cleaning Up

Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions.

6.4 Other Information

See Section 13 for disposal considerations.

SECTION 7 - Handling and Storage

7.1 Precautions for Safe Handling

Avoid contact with skin and eyes. Use with adequate ventilation. Avoid dust and aerosol formation.

7.2 Conditions for Storage Including any Incompatibilities

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

7.3 Other Information

Not Applicable.

SECTION 8 - Exposure Controls, Personal Protection

8.1 Control Parameters

Chemical does not contain any substances with occupational exposure limits.

8.2 Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Personal Protective Measures

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 gloves to prevent skin exposure. Wear impervious gloves: Nitrile rubber with layer thickness 0.11mm.

Clothing

Wear appropriate impervious protective clothing to minimize contact with skin.

Respirators

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Where protection from nuisance levels of dust are desired use type N95 (US) or type P1 (EN143) dust masks.

SECTION 9 - Physical and Chemical Properties**9.1 Physical and Chemical Property Information**

Appearance	: White Powder
Odor	: Not Applicable
Odor Threshold	: Not Applicable
pH	: 2.5-4 at 209 g/L @ 25°C
Melting Point/Freezing Point	: 277°C
Initial Boiling Point and Boiling Range	: No Data Available
Flash Point	: 110°C – closed cup
Evaporation Rate	: No Data Available
Flammability	: No Data Available
Upper/Lower Flammability or Explosive Limits	: No Data Available
Vapor Pressure	: No Data Available
Vapor Density	: No Data Available
Relative Density	: No Data Available
Water Solubility	: 209 g/L @ 20°C
Partition Coefficient: N-Octanol/Water	: No Data Available
Auto Ignition Temperature	: No Data Available
Decomposition Temperature	: No Data Available
Viscosity	: No Data Available
Explosive Properties	: No Data Available
Oxidizing Properties	: No Data Available

SECTION 10 - Stability and Reactivity**10.1 Chemical Stability**

Stable under normal conditions of use and storage.

10.2 Conditions to Avoid

Excess heat, incompatibles, dust formation.

10.3 Incompatibilities with Other Materials

Strong oxidizers, strong bases.

10.4 Hazardous Decomposition Products: Occurs Under Fire Conditions

No Data Available.

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SECTION 11 - Toxicological Information**11.1 Toxicological Effects**

LD50/LC50	: LD50: Oral - rat – >2.000 mg/kg.
Carcinogenicity	: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology	: No Data Available
Teratogenicity	: No Data Available
Reproductive Effects	: No Data Available
Neurotoxicity	: No Data Available
Mutagenicity	: No Data Available
Specific target organ toxicity -single exposure	: Inhalation -May cause respiratory irritation
Other Studies	: Not Applicable

11.2 Additional Information

RTECS : QE9104530

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**

Daphnia and other aquatic invertebrates EC50 : Daphnia magna (water flea) –>100 mg/L – 48 h.

12.2 Persistence and Degradability

No Data Available.

12.3 Bioaccumulative Potential

No Data Available

12.4 Mobility in Soil

No Data Available

12.5 Result of PBT and vPvB Assessment

PBT/vPvB assessment not available, chemical safety assessment not required/conducted.

12.6 Other Adverse Effects

Not Applicable

SECTION 13 - Disposal Considerations**13.1 Disposal Methods**

Dispose of in a manner consistent with Federal, State, and Local Regulations. Do not discharge to drains, sewage systems, or the environment.

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:				

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14.6 Special Precautions for User

No Data Available

SECTION 15 - Regulatory Information**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture**

TSCA : CAS# 1132-61-2 is listed on the TSCA inventory.

SARA:

SARA 302 : Not subject to 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 : Acute health hazard.

STATE SPECIFIC:

Massachusetts Right to Know Components : No components are subject to the Massachusetts Right to Know Act.
 Pennsylvania Right to Know Components : 4-Morpholinopropanesulphonic acid CAS# 1132-61-2
 New Jersey Right to Know Components : 4-Morpholinopropanesulphonic acid CAS# 1132-61-2
 California Prop. 65 Components : This product can expose you to chemicals including 1,3-Propane Sultone (CAS#1120-71-4), which is known to the State of California to cause cancer

15.2 Chemical Safety Assessment

No Data Available.

SECTION 16 - Additional Information**16.1 Hazard Ratings**

	NFPA Rating
Health Hazard	2
Fire Hazard	1
Reactivity Hazard	0

The information conveyed in this Safety Data Sheet is only a representation of what BioSpectra has found to be accurate based on the current information that is available in regards to this compound. BioSpectra makes no warranty, expressed or implied, with respect to such information, and therefore assumes no liability resulting from product usage. It is strongly recommended that users of this product perform their own investigations to determine the accuracy and suitability of the information for their specific purposes. In no way will BioSpectra assume liability for any claims, losses, damages to any third party, any lost profits or any special, indirect, incidental, consequential or exemplary damages that may arise, even if BioSpectra has been advised of the possibility of such damages.

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