



Safety Data Sheet
MOPS

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:

BioSpectra, Inc.
100 Majestic Way
Bangor, PA 18013
610-599-3400
ra@biospectra.us

1.4 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.
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:

Synonyms: 3-(N-Morpholino) propanesulfonic acid;
4-Morpholinepropanesulfonic acid

Formula: C₇H₁₅NO₄S

Molecular Weight: 209.26 g/mol.

CAS#: 1132-61-2

EC#: 214-478-5

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

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.

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 (NOx), 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 vapours, 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

Physical and Chemical Property Information		
(a)	Appearance	White Powder
(b)	Odour	Not Applicable
(c)	Odour threshold	Not Applicable
(d)	pH	2.5-4 at 209 g/L @ 25°C
(e)	Melting point/freezing point	277°C
(f)	Initial boiling point and boiling range	No Data Available
(g)	Flash point	110°C – closed cup
(h)	Evaporation rate	No Data Available
(i)	Flammability	No Data Available
(j)	Upper/lower flammability or explosive limits	No Data Available
(k)	Vapour pressure	No Data Available
(l)	Vapour density	No Data Available
(m)	Relative density	No Data Available

(n)	Water Solubility	209 g/L @ 20°C
(o)	Partition coefficient: n-octanol/water	No Data Available
(p)	Auto ignition temperature	No Data Available
(q)	Decomposition temperature	No Data Available
(r)	Viscosity	No Data Available
(s)	Explosive properties	No Data Available
(t)	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

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.

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

14.1 UN Number:

ADR/RID: Not Applicable, IATA: Not Applicable, IMDG: Not Applicable, USDOT: Not Applicable.

14.2 UN Proper Shipping Name:

ADR/RID: Not Dangerous Goods, IATA: Not Dangerous Goods, IMDG: Not Dangerous Goods, USDOT: Not Dangerous Goods.

14.3 Transport Hazard Class(es):

ADR/RID: Not Applicable, IATA: Not Applicable, IMDG: Not Applicable, USDOT: Not Applicable.

14.4 Packaging Group:

ADR/RID: Not Applicable, IATA: Not Applicable, IMDG: Not Applicable, USDOT: Not Applicable.

14.5 Environmental Hazards:

ADR/RID: Not Applicable, IATA: Not Applicable, IMDG: Marine pollutant: no, USDOT: Not Applicable.

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 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.

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 does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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.