SAFETY DATA SHEET

Advancion Corporation

Product name : MOPS, 4-Morpholinopropanesulfonic acid

Revision Date: 09/18/2025
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Advancion Corporation encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : MOPS, 4-Morpholinopropanesulfonic acid

Manufacturer or supplier's details

Company name of supplier : Advancion Corporation
Address : 1500 E. LAKE COOK ROAD
Buffalo Grove IL 60089-6553

Customer Information Number +1-847-808-3711

E-mail address NAR_CC@ADVANCIONSCIENCES.COM

Emergency telephone number **+1 800-424-9300 (24x7)**

Recommended use : For laboratory use.
Life sciences research chemical.
Biological buffer.
The Advancion Corporation recommends that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact the Customer Information Group (see Section 1 of this data sheet).

2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : MOPS, 4-Morpholinopropanesulfonic acid

Components

Chemical name	CAS-No.	Concentration (% w/w)
3-(N-morpholino)Propanesulfonic Acid	1132-61-2 4-Morpholinepropanesulfonic acid (7CI, 8CI, 9CI)	99

4. FIRST AID MEASURES

If inhaled : Move person to fresh air; if effects occur, consult a physician.
In case of skin contact : Wash off with plenty of water.
In case of eye contact : Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
If swallowed : If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Most important symptoms and effects, both acute and delayed : None known.
Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water fog or fine spray.
Carbon dioxide fire extinguishers.
Dry chemical fire extinguishers.
Foam.
Specific hazards during firefighting : Avoid dispersion of dust in air to reduce dust explosion hazard.
Hazardous combustion products : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Further information : Soak thoroughly with water to cool and prevent re-ignition.
Cool surroundings with water to localize fire zone.
Keep people away. Isolate fire and deny unnecessary entry.
Special protective equipment for firefighters : Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).
If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	:	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	:	Use care to minimize generation of airborne dust. Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid generating and breathing dust. Good housekeeping and controlling of dusts are necessary for safe handling of product. In case of insufficient ventilation, wear suitable respiratory equipment. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.
Conditions for safe storage	:	Store away from direct sunlight. Store in a cool, dry place. Store in a well-ventilated place. Keep container closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Hand protection		
Remarks	:	Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Polyvinyl chloride ("PVC" or "vinyl"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection	:	Use safety glasses (with side shields).
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	solid
Colour	:	White
Odour	:	odourless
Decomposition temperature	:	No test data available
Molecular weight	:	209.26 g/mol Method: Estimated.
Particle size	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under recommended storage conditions. See Storage, Section 7.
Conditions to avoid	:	Exposure to elevated temperatures can cause product to decompose. Avoid direct sunlight.
Incompatible materials	:	Strong bases. Strong oxidizers.
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Not classified due to lack of data.

Product:

Acute oral toxicity	:	Remarks: Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Low toxicity if swallowed.

LD50 (Rat, female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: Dust may cause irritation to upper respiratory tract (nose and throat).
Vapors are unlikely due to physical properties.

The LC50 has not been determined.:

Acute dermal toxicity : Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50 (Rat, female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Components:

4-morpholinopropanesulphonic acid:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: The LC50 has not been determined.

Acute dermal toxicity : LD50 (Rat, female): > 2,000 mg/kg
Symptoms: No deaths occurred at this concentration.
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified due to lack of data.

Product:

Remarks : Brief contact is essentially nonirritating to skin.

Components:

4-morpholinopropanesulphonic acid:

Remarks : Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Not classified due to lack of data.

Product:

Remarks : May cause slight temporary eye irritation.
Corneal injury is unlikely.

Components:

4-morpholinopropanesulphonic acid:

Remarks : May cause slight temporary eye irritation.

Corneal injury is unlikely.

Respiratory or skin sensitisation

Skin sensitisation
Not classified due to lack of data.

Respiratory sensitisation
Not classified due to lack of data.

Product:

Remarks : No relevant data found.
For skin sensitization:

Remarks : No relevant data found.
For respiratory sensitization:

Components:

4-morpholinopropanesulphonic acid:

Remarks : No relevant data found.
For skin sensitization:

Remarks : No relevant data found.
For respiratory sensitization:

Germ cell mutagenicity
Not classified due to lack of data.

Carcinogenicity
Not classified due to lack of data.

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Teratogenicity
Product
No relevant data found.

Components:

4-morpholinopropanesulphonic acid:
No relevant data found.

Mutagenicity
Product
No relevant data found.

Components:

4-morpholinopropanesulphonic acid:
No relevant data found.

Reproductive toxicity
Not classified due to lack of data.

STOT - single exposure
Not classified due to lack of data.

Product:

Assessment	:	Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:

4-morpholinopropanesulphonic acid:

Assessment	:	Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT - repeated exposure
Not classified due to lack of data.

Repeated dose toxicity

Product:

Remarks	:	No relevant data found.

Components:

4-morpholinopropanesulphonic acid:

Remarks	:	No relevant data found.

Aspiration toxicity
Not classified due to lack of data.

Product:
Based on physical properties, not likely to be an aspiration hazard.

Components:

4-morpholinopropanesulphonic acid:
Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

4-morpholinopropanesulphonic acid:

Toxicity to daphnia and other	:	Remarks: Material is practically non-toxic to aquatic

aquatic invertebrates	organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). EC50 (Daphnia magna): > 100 mg/l Exposure time: 48.0 h Test Type: Static Method: OECD Test Guideline 202

Persistence and degradability

Components:

4-morpholinopropanesulphonic acid:

Biodegradability	:	Remarks: No relevant data found.

Bioaccumulative potential

Components:

4-morpholinopropanesulphonic acid:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 3.2 Method: Estimated.
Partition coefficient: n-octanol/water	:	log Pow: -2.58 Method: Estimated. Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Mobility in soil

Components:

4-morpholinopropanesulphonic acid:

Distribution among environmental compartments	:	Koc: 10 Method: Estimated. Remarks: Potential for mobility in soil is very high (Koc between 0 and 50).

Other adverse effects

Components:

4-morpholinopropanesulphonic acid:

Results of PBT and vPvB assessment	:	This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).
Ozone-Depletion Potential	:	Remarks: This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.
All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations.
Regulations may vary in different locations.
Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.
AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL.
THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information.
FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted:
Incinerator or other thermal destruction device.
Landfill.

14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

Special precautions for user
Not applicable

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

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.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

4-morpholinopropanesulphonic acid 1132-61-2

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory y (positive listing)

TSCA list

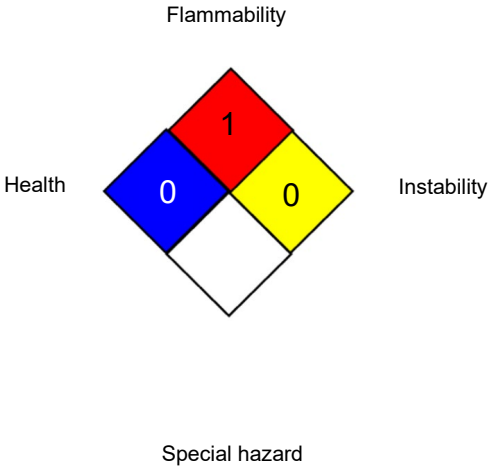
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

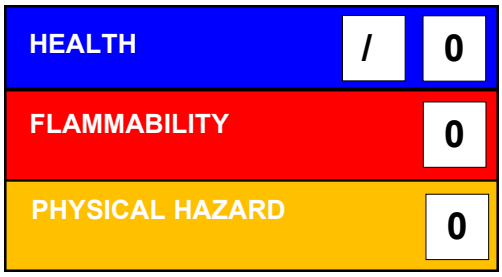
16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals

Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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