

MATERIAL SAFETY DATA SHEET

1. SUBSTANCE AND SOURCE IDENTIFICATION

National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2300
Gaithersburg, Maryland 20899-2300

SRM Number: 2183
MSDS Number: 2183
SRM Name: MOPSO

Date of Issue: 16 November 2011

Telephone: 301-975-2200
FAX: 301-926-4751
E-mail: SRMMSDS@nist.gov

Emergency Telephone ChemTrec:
1-800-424-9300 (North America)
+1-703-527-3887 (International)

Description: Standard Reference Material (SRM), 2183 MOPSO (3-(N-morpholino)-hydroxypropanesulfonic acid) is intended for preparing solutions for use in calibrating clinical instruments for blood pH measurements in the physiologically important range of pH 7 to 8. A unit of SRM 2183 consists of one bottle containing approximately 50 grams of powder.

Substance: 3-(N-morpholino)-hydroxypropanesulfonic acid

Other Designations: MOPSO; β -Hydroxy-4-morpholinpropanesulfonic acid

2. HAZARDS IDENTIFICATION

NFPA Ratings (Scale 0–4): Health = 2 Fire = 1 Reactivity = 0

Major Health Hazards: May cause irritation of the eyes, respiratory system, and skin.

Physical Hazards: Dust/air mixtures may ignite or explode.

Potential Health Effects

Inhalation: Acute: irritation and tearing; chronic: no information available.

Skin Contact: Acute and chronic: irritation and tearing.

Eye Contact: Acute and chronic: irritation, tearing, and visual disturbances.

Ingestion: Acute and chronic: no information available.

Listed as a Carcinogen/Potential Carcinogen

	Yes	No
National Toxicology Program (NTP) Report on Carcinogens	<input type="checkbox"/>	<input checked="" type="checkbox"/>
International Agency for Research on Cancer (IARC) Monographs	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Occupational Safety and Health Administration (OSHA)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

3. COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

Component	CAS Number	EC Number (EINECS)	Nominal Concentration (%)
MOPSO	68399-77-9	269-989-6	100

EC Classification: Not classified.

EC Risk (R No.) and EC Safety (S No.): Not assigned.

4. FIRST AID MEASURES

Inhalation: If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration by qualified personnel. Seek immediate medical attention.

Skin Contact: Rinse affected area with soap and water for at least 15 minutes. Seek medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Seek immediate medical attention.

Ingestion: If a large amount is swallowed, seek medical attention.

5. FIRE FIGHTING MEASURES

Fire and Explosion Hazards: Slight fire hazard. Dust/air mixtures may ignite or explode.

Extinguishing Media: Regular dry chemical, carbon dioxide, water, regular foam.

Fire Fighting: Avoid inhalation of combustion by-products.

Flash Point (°C): Not applicable.

Autoignition Temp. (°C): Not applicable.

Flammability Limits in Air

UPPER (Volume %): Not applicable.

LOWER (Volume %): Not applicable.

Products of Combustion: Thermal decomposition may release miscellaneous decomposition products (see Section 10, "Stability and Reactivity").

6. ACCIDENTAL RELEASE MEASURES

Occupational Release: Collect spilled material in appropriate container for proper disposal.

Disposal: Refer to Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

Storage: Store and handle in accordance with all current regulations and standards.

Safe Handling Precautions: See Section 8, "Exposure Controls and Personal Protection".

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: No exposure limits are established.

Ventilation: Local exhaust ventilation system.

Respirator: If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29 CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.

Eye Protection: Wear safety goggles. An eyewash station and drench shower should be readily available near the handling and use areas.

Personal Protection: Chemically resistant gloves and clothing are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Solid, white crystals; no odor information available.

Molecular Formula: C₆H₁₅NO₅S

Molar Mass (g/mol): 225.27

Water Solubility: Soluble.

Melting Point (°C): 274 (525 °F)

Decomposition(°C): Not available.

10. STABILITY AND REACTIVITY

Stability: Stable Unstable

Stable at normal temperature and pressure.

Conditions to Avoid: Avoid generating dust. Avoid heat, flames, sparks, and other sources of ignition. Avoid contact with incompatible materials.

Incompatible Materials: Oxidizing materials.

Fire/Explosion Information: See Section 5, "Fire Fighting Measures".

Hazardous Decomposition: Miscellaneous decomposition products including oxides of nitrogen, oxides of carbon, and oxides of sulfur.

Hazardous Polymerization: Will Occur Will Not Occur

11. TOXICOLOGICAL INFORMATION

Route of Entry: X Inhalation X Skin Ingestion

Toxicity Data: No information available.

Health Effects: See Section 2, "Hazards Identification" for potential health effects.

Target Organs: Not identified.

Mutagen/Teratogen: Registry of Toxic Effects of Chemical Substances (RTECS) publishes no data on this compound.

Medical Conditions Generally Aggravated by Exposure: Not identified.

12. ECOLOGICAL INFORMATION

Ecotoxicity Data: No ecotoxicity data listed.

13. DISPOSAL CONSIDERATIONS

Waste Disposal: Dispose in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. DOT and IATA: Not regulated by DOT or IATA.

15. REGULATORY INFORMATION

U.S. REGULATIONS

CERCLA Sections 102a/103 (40 CFR 302.4): Not regulated.

SARA Title III Section 302 (40 CFR 355.30): Not regulated.

SARA Title III Section 304 (40 CFR 355.40): Not regulated.

SARA Title III Section 313 (40 CFR 372.65): Not regulated.

OSHA Process Safety (29 CFR 1910.119): Not regulated.

SARA Title III SARA Sections 311/312 Hazardous Categories (40 CFR 370.21):

ACUTE HEALTH: Yes

CHRONIC HEALTH: No

FIRE: No

REACTIVE: No

PRESSURE: No

STATE REGULATIONS

California Proposition 65: Not listed.

CANADIAN REGULATIONS

WHMIS Information: Not provided for this information.

EUROPEAN REGULATIONS

EC Classification: Not classified.

EC Risk and Safety Phrases: Not assigned.

NATIONAL INVENTORY STATUS

U.S. Inventory (TSCA): MOPSO is listed.

TSCA 12(b), Export Notification: Not listed.

16. OTHER INFORMATION

Sources: ChemAdvisor, Inc., MSDS *3-Morpholino-2-hydroxypropanesulfonic acid*, 31 August 2009.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data in the MSDS. The certified values for this material are given in the NIST Certificate of Analysis.