

Material Safety Data Sheet

Effective Date: 01-31-08

I. CHEMICAL PRODUCT

Product: MES (Synonyms: 2-(N-Morpholino) ethanesulfonic acid, MES Free Acid Hydrate)
General Use: Not applicable

EMERGENCY NUMBER (SPILLS, EXPOSURES):

Company: 716-731-5567
CHEMTREC: 800-424-9300

NON-EMERGENCY INFORMATION: 716-731-5567

II. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Molecular Formula: $C_6H_{13}NO_4S \cdot H_2O$
Molecular Weight: 213.26

CAS No: 4432-31-9 (Anhydrous)
145224-94-8 (Monohydrate)
EINECS No: 224-632-3
OSHA PEL:

III. HAZARDS IDENTIFICATION

Warning! Toxicological properties unknown.
Symptoms of exposure: May be irritating on contact with skin, eyes and mucous membranes.
Additional information: All chemicals are potentially dangerous, should only be handled by trained personnel.

IV. FIRST AID MEASURES

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 10 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician
Skin: In case of skin contact wash with soap and plenty of water.
Ingestion: If person is conscious and can swallow, give two glasses of water (16 oz.), but do not induce vomiting. If vomiting occurs, give water again. Have medical personnel determine if evacuation of stomach or induction of vomiting is necessary. Do not give anything by mouth to an unconscious or convulsing person.
Inhalation: If inhaled remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

V. FIRE FIGHTING MEASURES

Extinguishing media: Water spray. Carbon dioxide, dry chemical powder or appropriate foam.
Decomposition products: Emits toxic fumes under fire conditions.
Fire Fighting procedures: Emits toxic fumes under fire conditions. Use water spray to cool containers under fire conditions. Use extinguishing media appropriate to surrounding fire conditions.
General hazards: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Emits toxic fumes under fire conditions.
Explosions hazards: N/A
NFPA rating: Health: 1
Flammability: 1
Reactivity: 0

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear appropriate personal protective equipment to minimize direct contact with skin or eyes and prevent inhalation of dust.
Clean up methods:	Sweep up with suitable equipment and place in a bag and hold for waste disposal. Prevent dusting and wash the site after material completely removed.

VII. HANDLING AND STORAGE

Handling:	Avoid prolonged / repeated exposure. Avoid inhalation, contact with eyes, skin and clothing.
Storage:	Room temperature and keep tightly closed.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure control:	Safety shower and eye bath. Mechanical exhaust. Wash thoroughly after handling.
Personal protective equipment:	Protective clothing. Respiratory: Appropriate NIOSH type N95 or better dust mask. Eye: Chemical safety goggles. Skin/Hand:: Chemical resistant gloves.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White powder
Odor:	Odorless.
Bulk density:	~500 kg/m ³ .
Boiling point:	Not applicable.
pH (10 g / l):	3.5 – 4.1.
Melting point / range:	~ 300 °C
Solubility in water:	Soluble.
Flash point:	Not applicable.
Flammability:	Not applicable.
Autoignition temperature:	Not applicable.

X. STABILITY AND REACTIVITY

Stability:	Stable under ordinary conditions of use / storage.
Incompatibility:	Strong oxidizing agents.
Hazardous decomposition products:	Thermal decomposition may produce toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides and sulphur oxides.
Hazardous polymerization:	Not applicable.

XI. TOXICOLOGICAL INFORMATION

Toxicity:	LD/LC50 values for this product are not available.
Route of exposure:	Skin Contact: May cause skin irritation. Eye Contact: May cause eye irritation. Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed.
Note:	To the best of our knowledge, the toxicological properties have not been thoroughly investigated.



XII. ECOLOGICAL INFORMATION

Water/AIR Pollution: Data not yet available.
Biodegradability: Data not yet available.

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Container Disposal: Observe all federal, state and local environmental regulation.

XIV. TRANSPORT INFORMATION

DOT: Proper Shipping Name : None
This substance is non-hazardous for transport.
IATA: This substance is no-hazardous for air transport.

XV. REGULATORY INFORMATION

U.S. Regulatory Information: SARA Listed: No
TSCA Inventory Item: Yes
Canada Regulatory Information: WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

XVI. OTHER INFORMATION

The information presented in this Material Safety Data Sheet is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide for safety precautions. It does not relate to use in combination with any material or process. The data does not reflect a guarantee of any product properties.