

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : MES

Product Number : M3671  
Brand : Sigma

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

No known OSHA hazards

##### HMIS Classification

Health hazard: 0  
Flammability: 0  
Physical hazards: 0

##### NFPA Rating

Health hazard: 0  
Fire: 0  
Reactivity Hazard: 0

##### Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.  
**Ingestion** May be harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 4-Morpholineethanesulfonic acid  
2-(N-Morpholino)ethanesulfonic acid

Formula : C<sub>6</sub>H<sub>13</sub>NO<sub>4</sub>S  
Molecular Weight : 195.24 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>2-Morpholinoethanesulphonic acid</b>			
4432-31-9	224-632-3	-	-

### 4. FIRST AID MEASURES

#### If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration

**In case of skin contact**

Wash off with soap and plenty of water.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self contained breathing apparatus for fire fighting if necessary.

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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Avoid dust formation.

**Environmental precautions**

Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Sweep up and shovel. Keep in suitable, closed containers for disposal.

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**7. HANDLING AND STORAGE****Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment****Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

For prolonged or repeated contact use protective gloves.

**Eye protection**

Safety glasses

**Hygiene measures**

General industrial hygiene practice.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form powder

Colour white

**Safety data**

pH 2.5 - 4 at 97.6 g/l at 25 °C (77 °F)

Melting point	300 °C (572 °F)
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Water solubility	97.6 g/l at 20 °C (68 °F) - completely soluble

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Reproductive toxicity

no data available

### Specific target organ toxicity - single exposure (GHS)

no data available

### Specific target organ toxicity - repeated exposure (GHS)

no data available

### Aspiration hazard

no data available

### Potential health effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Additional Information

RTECS: QE3479500

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## 12. ECOLOGICAL INFORMATION

### Toxicity

no data available

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

### Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### Product

Observe all federal, state, and local environmental regulations.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## 15. REGULATORY INFORMATION

### OSHA Hazards

No known OSHA hazards

### DSL Status

All components of this product are on the Canadian DSL list.

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

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 Hazards

No SARA Hazards

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

2-Morpholinoethanesulphonic acid

CAS-No.  
4432-31-9

Revision Date

**New Jersey Right To Know Components**

2-Morpholinoethanesulphonic acid

CAS-No.  
4432-31-9

Revision Date

**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.

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**16. OTHER INFORMATION****Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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