

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **MES monohydrate**
Product Code M22040
CAS Number 145224-94-8
Other Names M22040
2-(N-Morpholino)ethanesulfonic acid
4-Morpholineethanesulfonic acid monohydrate
IUPAC
MFCN Number
EC/EINECS 224 - 632 - 3
REACH Number Index-No

2. Relevant identified uses of the substance or mixture and uses advised against

Laboratory Research and Development

3. Details of the supplier of the safety data sheet

Melford Laboratories Ltd
Bildeston Road, Chelsworth
Ipswich
Suffolk
IP77LE
UK

Telephone: 01449 741178
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4. Emergency telephone number

+44(0)1449 741178 -

2. Hazards Identification

1. Classification of the substance or mixture

H315	Skin Irrit. 2	
H319	Eye Irrit. 2	
H335	STOT SE 3	

2. Label elements

Signal Word **Warning**



Hazard Statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary Phrases

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
MES monohydrate		
CAS Number: 145224-94-8 EC/EINECS: 224 - 632 - 3	H315, H319, H335 Eye Irrit. 2, Skin Irrit. 2, STOT SE 3	<=100%

4. First Aid Measures

1. Description of first aid measures

<i>Skin Contact</i>	P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs: Get medical advice/attention. Wash off with soap and plenty of water. Remove all contaminated clothes and footwear immediately unless stuck to skin. Consult a doctor.
<i>Eye Contact</i>	P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313: If eye irritation persists: Get medical advice/attention. Bathe the eye with running water for 15 minutes. Ensure adequate flushing by separating the eyelids with fingers Consult a doctor.
<i>Ingestion</i>	Wash out mouth with water. Consult a doctor. Never give anything by mouth to an unconscious person.
<i>Inhalation</i>	Supply fresh air; consult a doctor in case of complaints. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Treat symptomatically. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Consult a doctor.

2. Most important symptoms and effects

The most important known symptoms and effects are described in section 11

3. Indication of any immediate medical attention

No data available

Notes to Physician: Treat symptomatically

5. Firefighting measures

1. Extinguishing Media

Suitable Water spray.
Carbon dioxide.
Alcohol or polymer foam.
Dry chemical powder.

Unsuitable No data available

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form:
Carbon oxides, nitrogen oxides (NOx), Sulphur oxides

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas. Avoid breathing dust.
Refer to section 8 of SDS for personal protection details.

2. Environmental Precautions

Do not discharge into drains or rivers.

3. Methods & Materials

Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

Clean up all spills immediately. Wear suitable PPE.

7. Handling and Storage

1. Personal Precautions

<i>Safe Handling</i>	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
<i>Protection against explosions and fires</i>	Normal measures for preventive fire protection

2. Conditions for safe storage, including any incompatibilities

<i>Managing Storage Risks</i>	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
<i>Storage Controls</i>	No special requirements
<i>Maintaining Integrity</i>	No special requirements
<i>Other advice</i>	no further information available

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

<i>General protective and hygiene measures</i>	P280: Wear protective gloves/protective clothing/eye protection/face protection. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<i>Engineering measures</i>	Provide appropriate exhaust ventilation at places where dust is formed.
<i>Eye / Face Protection</i>	Safety Glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)
<i>Hand protection</i>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it
<i>Respiratory protection</i>	P261: Avoid breathing dust/fume/gas/mist/vapours/spray. For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
<i>Skin protection</i>	Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<i>Other personal protection advice</i>	no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	White powder
Odour	No Data Available
Odour threshold	No Data Available
PH	3.5 - 4.1 at 10 g/l
Melting point / Freezing point	> 300 °C - lit.
Initial boiling point and boiling range	No Data Available
Flash point	No Data Available
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative density	No Data Available
Solubility(ies):	No Data Available
Partition coefficient: n-octanol/water	No Data Available
Auto-ignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

No data available

2. Stability

Stable under recommended storage conditions

3. Possibility of Hazardous Reactions

No data available

4. Conditions to Avoid

No data available

5. Incompatible Materials

Strong oxidizing agents.

6. Hazardous Decomposition Products

No data available

11. Toxicology information

1. Information

Acute Toxicity No data available

Skin corrosion/irritation No data available

*Serious eye
Damage/irritation* No data available

*Respiratory or skin
sensitisation* 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.

Reproductive toxicity

No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration hazard

No data available

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12. Ecological Information

1. Toxicity

No data available

2. Persistence and degradability

No data available

3. Bio-Accumulative Potential

No data available

4. Mobility and Soil

No data available

5. Results of PBT & vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

6. Other adverse effects

No data available

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations Consult state, local or national regulations for proper disposal.

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

Not classified as hazardous for transport

Road (ADR)

Not classified as hazardous for transport

Sea (IMDG)

Not classified as hazardous for transport

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)

RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association

ICAO:International Civil Aviation Organization

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS:Chemical Abstracts Service

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.