PURITAN PRODUCTS

Effective Date: 08/01/14
Replaces Revision: Not Applicable

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: MES
Synonyms: 4-Morpholineethansulfonic Acid; 2-(N-Morpholino) Ethanesulfonic Acid
Chemical Formula: $C_6H_{13}NO_4S \cdot xH_2O$
Recommended Use of the Chemical and Restrictions On Use: Laboratory Chemicals
Manufacturer / Supplier: Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225
Emergency Phone Number: 24-Hour Chemtrec Emergency Telephone 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture: Not classified

Risk Phrases: None

Label Elements:

Trade Name: MES

Signal Word: None

Pictogram: None

Hazard Statements: None

Precautionary Statements: None

3. Composition / Information on Ingredients

CAS Number: 4432-31-9
EC Number: 224-632-3
Molecular Weight: 213.25 g/mol

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
MES	4432-31-9	224-632-3	98 - 100%	Yes	Substance

4. First-aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Get medical attention for any breathing difficulty.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. If large amounts were swallowed, get medical advice.

Skin Contact: Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Contact: Remove contacts, if present and easy to do so. Wash thoroughly with running water. Get medical advice if irritation develops.

5. Fire-fighting Measures

Flammable Properties: As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Fire Extinguishing Media: Use water spray, Alcohol-resistant foam, dry chemical or Carbon Dioxide.

Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Wear appropriate personal protective equipment as specified in Section 8.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Ventilate area of leak or spill. Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not let product enter drains.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids.) Observe all warnings and precautions listed for the product.

8. Exposure Controls / Personal Protection

Airborne Exposure Limits: None established.

Ventilation System: A system of local and / or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved): For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. For emergencies or instances where the exposure levels are not known, use a full face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in Oxygen-deficient atmospheres.

Skin Protection: Wear impervious protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystalline powder
Odor: Odorless
Odor Threshold: Not determined
pH: 3.5-5.5 (0.5M sol.)
Melting Point: > 300C (> 527F)
Boiling Point / Boiling Range: Not applicable
Flash Point: No data available
Evaporation Rate (BuAc=1): No data available
Flammability: No data available
Upper / Lower Flammability or Explosive Limits: No data available
Vapor Pressure (mm Hg): Negligible
Vapor Density (Air=1): No data available
Relative Density: 213.25 g/mol
Solubility: Soluble in water
Partition Coefficient: n-octanol / water: No data available
Auto-ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary use and storage conditions.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Incompatible Materials: Strong oxidizers.

Hazardous Decomposition Products: May form Carbon Oxides, Nitrogen Oxides, and Sulfur Oxides when heated to decomposition.

11. Toxicological Information

Emergency Overview: WARNING! MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. Toxicological properties have not been thoroughly investigated.

Potential Health Effects:

Inhalation: No information found, but compound should be handled as a potential health hazard. May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

Ingestion: No information found, but compound should be handled as a potential health hazard. May cause irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhea.

Skin Contact: No information found, but compound should be handled as a potential health hazard. May cause irritation with redness and pain. May be absorbed through the skin with possible systemic effects.

Eye Contact: No information found, but compound should be handled as a potential health hazard. May cause irritation, redness and pain.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Numerical Measures of Toxicity: Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
MES (4432-31-9)	No	No	None

Acute Toxicity: No data available

12. Ecological Information

Ecotoxicity: No information found.

Persistence and Degradability: No information found.

Bioaccumulative Potential: No information found.

Mobility in Soil: No information found.

Other adverse effects: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Not regulated

Maritime Transport IMDG/GGVSea
Not regulated

Air Transport ICAO-TI and IATA-DGR
Not regulated

15. Regulatory Information

Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
MES (4432-31-9)	Yes	Yes	No	Yes

Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
MES (4432-31-9)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	List Chemical	Catg.
MES (4432-31-9)	No	No	No	No

Federal, State & International Regulations - Part 2

	RCRA		TSCA
Ingredient	**CERCLA**	**261.33**	**8(d)**
MES (4432-31-9)	No	No	No

Chemical Weapons Convention: No		**TSCA 12(b):** No		**CDTA:** No
SARA 311/312:	**Acute:** Yes	**Chronic:** No	**Fire:** No	**Pressure**: No
Reactivity: No		Pure / Solid		

Australian Hazchem Code: Not classified

Poison Schedule: None allocated

16. Other Information

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO PURITAN PRODUCTS AT THIS TIME. WHILE BELIEVED TO BE ACCURATE, PURITAN PRODUCTS DOES NOT CLAIM IT TO BE ALL INCLUSIVE. IT IS PROVIDED INDEPENDENT OF ANY SALE OF THE PRODUCT, FOR THE PURPOSE OF HAZARD COMMUNICATION, AND AS A GUIDE FOR THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY PROPERLY TRAINED INDIVIDUALS. IT IS NOT INTENDED TO PROVIDE PRODUCT PERFORMANCE OR APPLICABILITY INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, THE UNDERLYING PRODUCT DATA, OR THE INFORMATION CONTAINED HEREIN.

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