

Material Safety Data Sheet

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Version 1.4
According to 91/155/EEC

1 - Product and Company Information

Product Name 4-(2-HYDROXYETHYL) PIPERAZINE-1-ETHANE-SULFONIC ACID
Product Number 54459
Company Sigma-Aldrich Pty. Ltd.
12 Anella Avenue
Castle Hill NSW 2154
Technical Phone # +61 2 9841 0555 (1800 800 097)
Fax +61 2 9841 0500 (1800 800 096)
Emergency Phone # +44 8701906777 (1800 448 465)

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
HEPES FREE ACID	7365-45-9	230-907-9	None
Formula C8H18N2O4S			
Molecular Weight 238.31 AMU			
Synonyms Hepes *			
	4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Not hazardous according to Directive 67/548/EEC.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Wear dust mask.

Hand Protection: Protective gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid Color: Colorless Form: Fine crystals	
Property	Value	At Temperature or Pressure
pH	5 - 6.5	
BP/BP Range	N/A	
MP/MP Range	234 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	

SG/Density	N/A
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solubility in Water: 1 M in H ₂ O, 20 °C complete, colorless

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Sulfur oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TL6809000

ACUTE TOXICITY

LD50
Oral
Quail
> 316 mg/kg

SIGNS AND SYMPTOMS OF EXPOSURE

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

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: May cause eye irritation.

Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

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. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

Not hazardous according to Directive 67/548/EEC.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

16 - Other Information

WARRANTY

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 Inc., 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. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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