

## Material Safety Data Sheet

Version 4.2

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HEPES

Product Number : H3375

Brand : Sigma

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

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

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2. HAZARDS IDENTIFICATION

## Emergency Overview

## OSHA Hazards

No known OSHA hazards

Not a dangerous substance according to GHS.

## HMIS Classification

Health hazard: 0

Flammability: 0

Physical hazards: 0

## NFPA Rating

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

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.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid

Formula :  $C_8H_{18}N_2O_4S$ 

Molecular Weight : 238.30 g/mol

No ingredients are hazardous according to OSHA criteria.

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## 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. FIREFIGHTING MEASURES

### **Suitable extinguishing media**

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

### **Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

### **Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides

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## 6. ACCIDENTAL RELEASE MEASURES

### **Personal precautions**

Avoid dust formation. Avoid breathing vapors, mist or gas.

### **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.

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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**

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.

#### **Eye protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **Skin and body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount

of the dangerous substance at the specific workplace.

#### **Hygiene measures**

General industrial hygiene practice.

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### **9. PHYSICAL AND CHEMICAL PROPERTIES**

#### **Appearance**

Form                      crystalline

Colour                    colourless

#### **Safety data**

pH                        5.0 - 6.5 at 238 g/l at 25 °C (77 °F)

Melting  
point/freezing point    234 °C (453 °F)

Boiling point            no data available

Flash point              no data available

Ignition temperature   no data available

Autoignition  
temperature              no data available

Lower explosion limit   no data available

Upper explosion limit   no data available

Vapour pressure        no data available

Density                  no data available

Water solubility        soluble

Partition coefficient:  
n-octanol/water        no data available

Relative vapour  
density                   no data available

Odour                    no data available

Odour Threshold        no data available

Evaporation rate        no data available

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### **10. STABILITY AND REACTIVITY**

#### **Chemical stability**

Stable under recommended storage conditions.

#### **Possibility of hazardous reactions**

no data available

#### **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  
Other decomposition products - no data available

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### **11. TOXICOLOGICAL INFORMATION**

#### **Acute toxicity**

##### **Oral LD50**

no data available

**Inhalation LC50**

no data available

**Dermal LD50**

no data available

**Other information on 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

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

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.

**Synergistic effects**

no data available

**Additional Information**

RTECS: TL6809000

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

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

No known OSHA hazards

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

|                                                      |           |               |
|------------------------------------------------------|-----------|---------------|
|                                                      | CAS-No.   | Revision Date |
| 4-(2-Hydroxyethyl)piperazin-1-ylethanesulphonic acid | 7365-45-9 |               |

New Jersey Right To Know Components

|                                                      |           |               |
|------------------------------------------------------|-----------|---------------|
|                                                      | CAS-No.   | Revision Date |
| 4-(2-Hydroxyethyl)piperazin-1-ylethanesulphonic acid | 7365-45-9 |               |

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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