

## SECTION 1 – IDENTIFICATION

**Product Identifier:** 1M HEPES Buffer, pH 7.5  
Ultra Pure Grade

**Catalogue Number:** 1821

**Other means of identification:** 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid  
N-(2-Hydroxyethyl)piperazine-N'-(2-ethanesulfonic acid)

**Recommended use of the chemical and restrictions on use:**  
For R&D use only. Not for pharmaceutical, household or other uses.

### Supplier Information:

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Tel: +603 8943 3252  
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Email: [custcare@apicalscientific.com](mailto:custcare@apicalscientific.com)

### Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.  
+65 6775 7318 (Singapore)  
+603 8943 3252 (Malaysia)

## SECTION 2 – HAZARDS IDENTIFICATION

### GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

**Other hazards** - None

## SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

**Chemical characterization:** Mixture

**Chemical Identity:** HEPES  
**Synonyms:** 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid  
N-(2-Hydroxyethyl)piperazine-N'-(2-ethanesulfonic acid)

**Molecular Formula:** C<sub>8</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S  
**Molecular Weight:** 238.3 g/mol  
**CAS No.:** 7365-45-9  
**EC No.:** 230-907-9

## SECTION 4 – FIRST-AID MEASURES

### Eye Contact

Flush eyes with water as a precaution.

## **Skin Contact**

Immediately wash skin thoroughly with soap and copious amounts of water.

## **Inhalation**

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

## **Ingestion**

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

## **Most important symptoms and effects, both acute and delayed**

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

## **Indication of immediate medical attention and special treatment needed**

Data not available.

## **SECTION 5 – FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

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

### **Special Exposure Hazards**

Carbon oxides, nitrogen oxides, Sulphur oxides.

### **Special Fire-fighting Procedures**

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

## **SECTION 6 – ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions**

Prevent skin/eye contact. Use personal protective equipment. Ensure adequate ventilation.

### **Environmental Precautions**

Do not allow material into sewers and drainage systems.

### **Methods for Cleaning Up**

Clean up spills immediately, observing precautions in the safety data sheet and label. Dispose into a chemical waste container.

## **SECTION 7 – HANDLING AND STORAGE**

### **Precautions for safe handling**

Prevent skin/eye contact. Use personal protective equipment. Ensure adequate ventilation. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

### **Conditions for safe storage, including any incompatibilities**

Store in tightly closed container at 4°C.

## **SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION**

### **Occupational Exposure Limits**

We are not aware of any national exposure limit.

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

### Eye/ Face Protection

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

### Skin/ 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### 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).

### Control of environmental exposure

No special environmental precautions required.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	<b>Appearance</b>	Clear liquid
b)	<b>Odour</b>	Odourless
c)	<b>Odour Threshold</b>	Not available
d)	<b>pH (neat, 25 °C)</b>	7.3 – 7.7
e)	<b>Melting/freezing point</b>	Not available

f)	<b>Initial boiling point and boiling range</b>	Not available
g)	<b>Flash point</b>	Not available
h)	<b>Evaporation rate</b>	Not available
i)	<b>Flammability (solid, gas)</b>	Not available
j)	<b>Upper/lower flammability or explosive limits</b>	Not available
k)	<b>Vapour pressure (mm Hg)</b>	Not available
l)	<b>Vapour density</b>	Not available
m)	<b>Relative density</b>	1,070 g/cm <sup>3</sup>
n)	<b>Solubility (ies)</b>	Not available
o)	<b>Partition coefficient: n-octanol/water</b>	Not available
p)	<b>Autoignition temperature</b>	Not available
q)	<b>Decomposition temperature</b>	Not available
r)	<b>Viscosity</b>	Not available

## SECTION 10 – STABILITY AND REACTIVITY

### Reactivity

Data not available.

### Chemical stability

Stable.

### Possibility of hazardous reactions

Data not available.

### Conditions to avoid

Data not available.

### Incompatible material

Strong oxidizing agents.

### Hazardous decomposition products

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

## SECTION 11 – TOXICOLOGICAL INFORMATION

### Acute toxicity

Data not available.

### Skin corrosion/irritation

Data not available.

### Serious eye damage/eye irritation

Data not available.

### Respiratory or skin sensitization

Data not available.

### Germ cell mutagenicity

Data not 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

Data not available.

### Specific target organ toxicity – single exposure

Data not available.

### Specific target organ toxicity – repeated exposure

Data not available.

### Aspiration hazard

Data not available.

### Other information

RTECS: Data not available

## SECTION 12 – ECOLOGICAL INFORMATION

### Toxicity

Data not available.

### Persistence and degradability

Data not available.

### Bioaccumulative potential

Data not available.

### Mobility in soil

Data not available.

### Other adverse effect

Data not available.

## SECTION 13 – DISPOSAL CONSIDERATIONS

### Product

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

### Contaminated packaging

Dispose off as unused product.

## SECTION 14 – TRANSPORT INFORMATION

### UN Number

ADR/RID: -

IMDG: -

IATA-DGR: -

### UN Proper Shipping Name:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

### Transport Hazard Class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

### Packing Group

ADR/RID: -

IMDG: -

IATA-DGR: -

### Environmental Hazards

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

### Special Precaution for Users

Data not available

## SECTION 15 – REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

Data not available

## SECTION 16 – OTHER INFORMATION

**Date of Issue:** JULY 11, 2008

**Date of Revision:** MAY 01, 2017

*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. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.*