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## Material Safety Data Sheet

### SECTION 1:CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: HEPES  
Company: Suzhou YACOO Science Co., Ltd.  
Address: No.128,FangZhou Road,Suzhou Industrial Park,China  
Tel: 0512-87182055  
Fax: 0512-87182056

### SECTION 2: Hazards identification

#### Summary of emergency

Crystalline powder colorless After inhalation: fresh air. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. After eye contact: rinse out with plenty of water., Remove contact lenses. After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

#### 2.1GHS Classification

Not a hazardous substance or mixture.

#### 2.2GHS Label elements, including precautionary statements

Not a hazardous substance or mixture.

#### 2.3Physical and chemical hazards

Referring to current information, no physical or chemical hazard.

#### 2.4Health hazards

Referring to current information, no health hazard.

#### 2.5Environmental hazards

Referring to current information, no environmental hazard.

#### 2.6Other hazards - none

### SECTION 3: Composition/information on ingredients

Substance / Mixture: Substance

#### 3.1Substances

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

Formula: C<sub>8</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub>S

Molecular weight: 238.30 g/mol

CAS-No.: 7365-45-9

EC-No.: 230-907-9

No components need to be disclosed according to the applicable regulations.



## **SECTION 4: First aid measures**

### 4.1 Description of first-aid measures

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

### 4.4 Notes to physician

No data available

## **SECTION 5: Firefighting measures**

### 5.1 Extinguishing media Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NO<sub>x</sub>) Sulfur oxides

### 5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

## **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed. Dry.

Storage class

Storage class (TRGS 510): 13: Non Combustible Solids

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves .

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested:KCL 741 Dermatril® L

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a)Physical state                      Crystalline powder

b)Color                                      colorless

c)Odor                                        No data available

d)Melting point/freezing point                      Melting point/range: 212.6 ° C - Decomposes before melting.

e)Initial boiling point and boiling range	Decomposes below the boiling point.
f)Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
g)Upper/lower flammability or explosive limits	No data available
h)Flash point	No data available
i)Autoignition temperature	does not ignite
j)Decomposition temperature	No data available
k)pH	5.0 - 6.5 at 238 g/l at 25 ° C
l)Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
m)Water solubility	703.6 g/l at 20 ° C - OECD Test Guideline 105
n)Partition coefficient: n-octanol/water	log Pow: < -3.85
o)Vapor pressure	No data available
p)Density	1.439 g/cm <sup>3</sup> at 20 ° C - OECD Test Guideline 109
Relative density	No data available
q)Relative vapor density	No data available
r)Particle characteristics	No data available
s)Explosive properties	Not explosive
t)Oxidizing properties	The substance or mixture is not classified as oxidizing.
9.2Other safety information	
Surface tension	63.98 mN/m at 20 ° C

## SECTION 10: Stability and reactivity

### 10.1Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.2Possibility of hazardous reactions

No data available

### 10.3Conditions to avoid

no information available

### 10.4Incompatible materials

Strong oxidizing agents

### 10.5Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 423)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 30 s  
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative  
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD

Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: TL6809000

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish                    static test LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96 h  
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates                    static test EC50 - Daphnia magna (Waterflea)  
- > 100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae                    static test ErC50 - Pseudokirchneriella subcapitata (green algae) - >  
100 mg/l - 72 h  
(OECD Test Guideline 201)

static test NOEC - Pseudokirchneriella subcapitata (green algae) - >  
100 mg/l - 72 h  
(OECD Test Guideline 201)

Toxicity to bacteria                    Respiration inhibition EC50 - activated sludge - > 1,000 mg/l - 3 h  
(OECD Test Guideline 209)

### 12.2 Persistence and degradability

Biodegradability                    aerobic - Exposure time 28 d  
Result: 0 % - Not readily biodegradable.  
(OECD Test Guideline 301D)

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

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

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

Discharge into the environment must be avoided.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods Product

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

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: -                    IMDG: -                    IATA-DGR: -

### 14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

### 14.3 Transport hazard class(es)

ADR/RID: -                    IMDG: -                    IATA-DGR: -

### 14.4 Packaging group

ADR/RID: -                    IMDG: -                    IATA-DGR: -

### 14.5 Environmental hazards



ADR/RID: no      IMDG Marine pollutant: no      IATA-DGR: no

14.6 Special precautions for user

14.7 Incompatible materials

Strong oxidizing agents

Further information

Not classified as dangerous in the meaning of transport regulations.

### **SECTION 15: Regulatory information**

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

National regulatory information

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

### **SECTION 16: OTHER INFORMATION**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

