

SECTION 1. Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:**

N- (2-Hydroxy ethyl)-Piperazine ethane Sulfonic acid

Synonyms:

HEPES
HEPES-LUV
HEPES-A
HEPES-M
HEPES-MBG
HEPES-TECH
4-(2-hydroxyethyl) piperazin-1-ylethanesulphonic acid
HEPES (PBP)

INCI:

HYDROXYETHYLPIPERAZINE ETHANE SULFONIC ACID

CAS Number:

7365-45-9

Registration number:

01-2120054645-54-XXXX

1.2 Relevant identified uses of the substance or mixture and uses advised against

Formulation & (re)packing of substances and mixtures
Use in coatings (industrial)
Use as an intermediate (industrial)
Use as a reactive processing agent
Use in laboratories (industrial)
Use in coatings (professional)
Use in laboratories (professional)
Use in coatings (consumers)
End use in cosmetic products (consumers)

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

TAIWAN HOPAX CHEMS. MFG. CO., LTD
No. 28 Huadong Rd., Dailao Dist., Kaohsiung City 831
TAIWAN-ROC

Only Representative

TÜV SÜD Iberia, S.A.U.
Ronda Can Fatjó 13
08290 Cerdanyola del Vallès (Barcelona) Spain
e-mail: reach.es@tuv-sud.es

Further information obtainable from:

reach.es@tuv-sud.es
samantha@hopax.com.tw

1.4 Emergency telephone number:

Manufacturer: HOPAX: +886-788-7600 Ext 314

SECTION 2. Hazards Identification**2.1 Chemicals Classification :**

Not a hazardous substance according to the CLP Regulation N°1272/2008 and REACH Regulation N°1907/2006/EC

2.2 Label elements

Labeling : -

Symbol : -

Signal word : -

Hazard statement :

Not a hazardous substance

Precautionary statements :

Do not eat, drink or use tobacco when using this product.

Wear respiratory protection, protective gloves and eye/face protection.

Use only in a well-ventilated area.

Wash thoroughly after handling.

2.3 Other hazards :

No further relevant information available

SECTION 3. Composition / Information on ingredients

3.1 Pure material :

Chinese and English name :

N-2-羥乙基哌嗪-N-2-乙磺酸 / N-(2-Hydroxyethyl)piperazine-N' ethanesulfonic acid

Synonyms :

4-(2-Hydroxyethyl)-1-piperazineethanesulfonic acid

Chemical Abstract Service No.(CAS No.) : 7365-45-9

The hazardous ingredient (%of the content) : -

3.2 Mixtures :

Chemical properties : -

Chinese and English names of The hazardous ingredients	Concentration or concentration ranges (ingredient percentage)
-	-

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General information:

No special measures required.

After inhalation:

Remove to fresh air. Treat symptomatically. Get medical attention.

After skin contact:

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before cause. Destroy contaminated shoes.

After eye contact:

Immediately flush with plenty of water for at least 15 minutes and get medical attention.

After swallowing:

If swallowed, do NOT induce vomiting. Immediately give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

4.2 The most important symptoms and hazardous effects :

No further relevant information

4.3 Indication of any immediate medical attention and special treatment needed

Treatment should be symptomatic and directed to relieving any effects.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x), Sulphur oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation.

Avoid breathing vapors, mist or gas..

6.2 Environmental precautions:

Do not let product enter drains.

6.3 Methods and material for containment and cleaning up:

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

Information about fire - and explosion protection:

No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place.

Keep container tightly closed in a dry and well-ventilated place..

7.3 Specific end use(s)

No further relevant information available

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

8.1 Control parameters**Components with workplace control parameters:**

No data available.

8.2 Exposure controls**Appropriate engineering controls:**

Handle in accordance with good industrial hygiene and safety practice.

8.3 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).

Skin 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

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.

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

Do not let product enter drains.

SECTION 9. PHYSICAL/CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information

Appearance:	
Form:	Crystalline powder
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.
pH-value:	Not determined
Change in condition	
Melting point/freezing point:	213 °C (decomp.)
Initial boiling point and boiling range:	288±0.5 °C (DSC)
Flash point:	Not applicable
Flammability (solid, gas):	Non-flammable
Decomposition temperature:	Not determined
Auto-ignition temperature:	400 °C
Explosive properties:	Not explosive
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	3.2*10 ⁻⁸ Pa at 25 °C
Density:	1.44 g/cm ³ at 20 °C
Relative density	Not determined
Vapor density	Not determined
Evaporation rate	Not applicable
Solubility in water:	703.6 g/l at 20 °C
Partition coefficient: n-octanol/water	< -3.85 at 20 °C
Viscosity:	
Dynamic:	Not applicable
Kinematic:	Not applicable

9.2 Other information

Oxidizing properties.	No oxidizing properties
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SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials:

Strong oxidizing agents.

10.6 Hazardous decomposition products:

No further relevant information available.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Based on the available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Oral rat: LD50, > 2000 mg/kg bw

Dermal, rat: LD50 > 2000 mg/kg bw

Primary irritant effect:

Skin corrosion/irritation

Based on the available data, the classification criteria are not met

Serious eye damage/irritation

Based on the available data, the classification criteria are not met.

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Subacute to chronic toxicity:

The available data on embryofetal development toxicity of the test substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 or Directive 67/548/EEC, and is therefore conclusive but not sufficient for classification.

Repeated dose toxicity

Oral (OECD 407), 28 days, rat: NOAEL (systemic) \geq 1000 mg/kg bw/day

Germ cell mutagenicity

The available data on the genetic toxicity of the test substance do not meet the criteria for classification according to Regulation (EC) 1272/2008 or Directive 67/548/EEC, and are therefore conclusive but not sufficient for classification.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

The available data on embryofetal development toxicity of the test substance does not meet the criteria for classification according to Regulation (EC) 1272/2008 or Directive 67/548/EEC, and is therefore conclusive but not sufficient for classification.

Reproductive toxicity

NOEL maternal toxicity: 1000 mg/kg bw/day

NOEL embryofetal development: 1000 mg/kg bw/day

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity:

Does not meet the criteria for classification

Short-term studies with the test substance HEPES are available for fish, daphnia and algae. All tests demonstrate low aquatic toxicity, with LC/EC50 values of > 100 mg/L, for fish, daphnia and alga.

No long-term studies with fish or daphnia are available for the substance. The algal test revealed a NOEC of 100 mg/L (highest tested concentration; no effects were observed).

12.2 Persistence and degradability

The biodegradability test showed that the test substance is not readily biodegradable. The assessment of hydrolytic stability of the test showed that the test item is hydrolytically stable ($t_{1/2} > 1$ year at 25 °C) at pH 4, 7 and 9.

SECTION 15. REGULATORY INFORMATION

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

Inventory - United States - Toxic Substances Control Act (TSCA)

The substance is listed and 'Active' on the EPA's TSCA Inventory.

Inventory - Canada - Domestic Substances List (DSL)

Substance is listed

Philippines Inventory of Chemicals and Chemical Substances

Substance is listed.

Australian Inventory of Chemical Substances

Substance is listed.

Inventory - Korea - Existing and Evaluated Chemical Substances

Substance is not listed.

New Zealand Inventory of Chemicals

Substance is listed.

Labelling according to Regulation (EC) No 1272/2008

Not applicable

Hazard pictograms

Not applicable

Signal word

Not applicable

Hazard statements

Not applicable

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

15.3 U.S. California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):

Substance does not expose you to any substances on the Proposition 65 List known to the State of California to cause cancer, birth defects, or other reproductive harm.

SECTION 16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviations and acronyms:

NOAEL: Non Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous

Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

According to Regulation 1907/2006 (EC), Article 31

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