

# SAFETY DATA SHEET

New Zealand

## Section 1. Identification

**Product name**

**HEPES**

**Catalogue Number**

**SH30337**



**Chemical name**

4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid

**Other means of identification**

1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-; N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid; 2-(4-(2-hydroxyethyl)piperazin-1-yl)ethanesulfonic acid; 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonic acid

**Product type**

Powder.

**Identified uses**

### Supplier

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**Emergency telephone number**

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## Section 2. Hazards identification

**HSNO Classification**

Not classified.

This material is not classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

### GHS label elements

**Signal word**

No signal word.

**Hazard statements**

No known significant effects or critical hazards.

### **Precautionary statements**

**Prevention**

Not applicable.

**Response**

Not applicable.

**Storage**

Not applicable.

**Disposal**

Not applicable.

**Other hazards which do not result in classification**

May form explosible dust-air mixture if dispersed.

### Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	Substance
<b>Chemical name</b>	4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid
<b>Other means of identification</b>	1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)-; N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid; 2-(4-(2-hydroxyethyl)piperazin-1-yl)ethanesulfonic acid; 4-(2-hydroxyethyl)piperazin-1-ylethanesulfonic acid
<b><u>CAS number/other identifiers</u></b>	
<b>CAS number</b>	7365-45-9
<b>EC number</b>	230-907-9
<b>Product code</b>	SH30337

Ingredient name	%	CAS number
4-(2-hydroxyethyl)piperazin-1-ylethanesulphonic acid	100	7365-45-9

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First aid measures

#### **Description of necessary first aid measures**

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Ingestion</b>	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

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

##### **Potential acute health effects**

<b>Inhalation</b>	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

##### **Over-exposure signs/symptoms**

<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Ingestion</b>	No specific data.
<b>Skin</b>	No specific data.
<b>Eyes</b>	Adverse symptoms may include the following: irritation redness

#### **Indication of immediate medical attention and special treatment needed, if necessary**

<b>Specific treatments</b>	Not available.
<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable</b>	Use dry chemical powder.
<b>Not suitable</b>	Do not use water jet.
<b>Specific hazards arising from the chemical</b>	May form explosible dust-air mixture if dispersed.
<b>Hazardous thermal decomposition products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
<b>Hazchem code</b>	Not available.
<b>Special precautions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

<b>Small spill</b>	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

<b>Precautions for safe handling</b>	Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.
<b>Conditions for safe storage, including any incompatibilities</b>	Storage temperature: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

<b>Appropriate engineering controls</b>	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
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<b>Environmental exposure controls</b>	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
<b><u>Individual protection measures</u></b>	
<b>Hygiene measures</b>	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Respiratory protection</b>	Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hand protection</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
<b>Eye protection</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.
<b>Skin protection</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid. [Crystalline powder.]
<b>Colour</b>	White.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point</b>	234°C (453.2°F)
<b>Boiling point</b>	Not available.
<b>Flash point</b>	Not available.
<b>Burning rate</b>	Not available.
<b>Burning time</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Lower and upper explosive (flammable) limits</b>	Not available.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility</b>	Not available.
<b>Solubility in water</b>	Not available.
<b>Partition coefficient: n-octanol/ water</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>SADT</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Flow time (ISO 2431)</b>	Not available.
<b>Molecular weight</b>	238.31 g/mole

### Aerosol product

<b>Type of aerosol</b>	Not applicable.
<b>Heat of combustion</b>	Not available.
<b>Ignition distance</b>	Not applicable.
<b>Enclosed space ignition - Time equivalent</b>	Not applicable.
<b>Enclosed space ignition - Deflagration density</b>	Not applicable.

<b>Flame height</b>	Not applicable.
<b>Flame duration</b>	Not applicable.

## Section 10. Stability and reactivity

<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
<b>Incompatible materials</b>	Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Inhalation</b>	Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Ingestion</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Eye contact</b>	Adverse symptoms may include the following: irritation redness

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Acute toxicity

Not available.

#### Irritation/Corrosion

Not available.

#### Sensitisation

Not available.

### Potential chronic health effects

<b>General</b>	No known significant effects or critical hazards.
<b>Inhalation</b>	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
<b>Ingestion</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	No known significant effects or critical hazards.
<b>Mutagenicity</b>	No known significant effects or critical hazards.
<b>Teratogenicity</b>	No known significant effects or critical hazards.
<b>Developmental effects</b>	No known significant effects or critical hazards.
<b>Fertility effects</b>	No known significant effects or critical hazards.

#### Chronic toxicity

Not available.

#### Carcinogenicity

Not available.

**Mutagenicity**

Not available.

**Teratogenicity**

Not available.

**Reproductive toxicity**

Not available.

**Specific target organ toxicity**

Not available.

**Aspiration hazard**

Not available.

**Numerical measures of toxicity****Acute toxicity estimates**

Not available.

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**Section 12. Ecological information****Ecotoxicity** No known significant effects or critical hazards.**Aquatic and terrestrial toxicity**

Not available.

**Persistence/degradability**

Not available.

**Bioaccumulative potential**

Not available.

**Mobility in soil****Soil/water partition coefficient (K<sub>oc</sub>)** Not available.**Other adverse effects** No known significant effects or critical hazards.

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**Section 13. Disposal considerations**

**Disposal methods** The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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**Section 14. Transport information**

Regulatory information	UN number	Proper shipping name	Classes	PG*
<b>New Zealand Class</b>	Not available.	Not available.	Not available.	-
<b>IATA Class</b>	Not available.	Not available.	Not available.	-
		-		
		No.		
<b>IMDG Class</b>	Not available.	Not available.	Not available.	-
		No.		

PG\* : Packing group

**Special precautions for user** **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

<b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not available.
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## Section 15. Regulatory information

<b>HSNO Approval Number</b>	Not available.
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<b>HSNO Group Standard</b>	Not available.
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<b>HSNO Classification</b>	Not classified.
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### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>New Zealand</b>	This material is listed or exempted.
<b>Australia</b>	This material is listed or exempted.
<b>Europe</b>	This material is listed or exempted.
<b>United States</b>	This material is listed or exempted.
<b>Canada inventory</b>	This material is listed or exempted.
<b>China</b>	This material is listed or exempted.
<b>Japan</b>	<b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	Not determined.

## Section 16. Other information

### History

<b>Date of printing</b>	15 April 2020
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<b>Date of previous issue</b>	4/10/2015
<b>Version</b>	1

### **Key to abbreviations**

ADG = Australian Dangerous Goods  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 UN = United Nations

### **References**

Not available.

 Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.