

**Safety Data Sheet**  
 acc. to OSHA HCS

Page 1/7

Printing date 03/17/2018  
 Reviewed on 03/16/2018  
 Version number: 2

## 1 Identification

- **Product identifier**
- **Trade name:** HEPES buffer pH 8.0 (1 M), sterile
- **Article number:** A6906
- **Application of the substance / the mixture**  
 Biochemistry  
 Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 AppliChem GmbH  
 Ottoweg 4  
 D-64291 Darmstadt
- **Information department:** Dept. Compliance
- **Emergency telephone number:** +49(0)6151 93570 (Inside normal business hours)

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 msds@applichem.com

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
 The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** aqueous solution
- **Dangerous components:** Void

Trade name: HEPES buffer pH 8.0 (1 M), sterile

(Contd. of page 1)

#### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
Wash off with plenty of water.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Seek medical treatment.
- **After swallowing:**  
Rinse out mouth.  
If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

#### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Water, CO<sub>2</sub>, foam, powder.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
CO, CO<sub>2</sub>  
(SO<sub>2</sub>, SO<sub>3</sub>)  
Non-combustible.  
Ambient fire may liberate hazardous vapours.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Contain escaping vapours with water.

#### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Do not inhale steams/aerosols.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Clean up affected area.
- **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.
- **Protective Action Criteria for Chemicals**

• **PAC-1:**

7365-45-9	HEPES Free Acid	30 mg/m <sup>3</sup>
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• **PAC-2:**

7365-45-9	HEPES Free Acid	330 mg/m <sup>3</sup>
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(Contd. on page 3)

Trade name: HEPES buffer pH 8.0 (1 M), sterile

(Contd. of page 2)

· **PAC-3:**

7365-45-9 HEPES Free Acid

2,000 mg/m<sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** The product is not flammable.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container sealed.
- **Recommended storage temperature:** +15 - +25°C
- **Storage class:** 12
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Change contaminated clothing.
- **Breathing equipment:**  
Filter ABEK  
Respiratory protection required when vapours/aerosols are generated.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **As protection from splashes gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.11$  mm  
Value for the permeation: Level  $\geq 480$  min
- **Eye protection:** Safety glasses

(Contd. on page 4)

US

**Trade name: HEPES buffer pH 8.0 (1 M), sterile**

(Contd. of page 3)

• **Body protection:**

Protective work clothing

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.

## 9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Fluid

Color:

Colorless

• **Odor:**

Odorless

• **Odor threshold:**

Not determined.

• **pH-value at 20 °C (68 °F):**

8

• **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

• **Flash point:**

Not applicable.

• **Flammability (solid, gaseous):**

Not applicable.

• **Decomposition temperature:**

Not determined.

• **Auto igniting:**

Product is not selfigniting.

• **Danger of explosion:**

Product does not present an explosion hazard.

• **Explosion limits:**

Lower:

Not determined.

Upper:

Not determined.

• **Vapor pressure:**

Not determined.

• **Density:**

Not determined.

• **Relative density**

Not determined.

• **Vapor density**

Not determined.

• **Evaporation rate**

Not determined.

• **Solubility in / Miscibility with**

Water:

Fully miscible.

• **Partition coefficient (n-octanol/water):** Not determined.

• **Viscosity:**

Dynamic:

Not determined.

Kinematic:

Not determined.

• **Solvent content:**

Water:

76.2 %

VOC content:

0.00 %

• **Other information**

No further relevant information available.

## 10 Stability and reactivity

• **Reactivity** No dangerous reactions known.

• **Chemical stability**

• **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

• **Possibility of hazardous reactions** No dangerous reactions known.

(Contd. on page 5)

Trade name: HEPES buffer pH 8.0 (1 M), sterile

(Contd. of page 4)

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No dangerous reactions known.
- **Hazardous decomposition products:** In the event of fire: See chapter 5

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**  
Quantitative data on the toxicological effect of this product are not available.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

• <b>IARC (International Agency for Research on Cancer)</b>
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None of the ingredients is listed.
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• <b>NTP (National Toxicology Program)</b>
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None of the ingredients is listed.
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• <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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None of the ingredients is listed.
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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow to enter waters, waste water, or soil.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Chemicals must be disposed of in compliance with the respective national regulations.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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(Contd. on page 6)

Trade name: HEPES buffer pH 8.0 (1 M), sterile

(Contd. of page 5)

## 14 Transport information

· UN-Number	
· DOT, ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	
· DOT, ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· DOT, ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· DOT, ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

## 15 Regulatory information

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

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

### · TSCA (Toxic Substances Control Act):

All ingredients are listed.

### · Proposition 65

### · Chemicals known to cause cancer:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

### · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

### · Cancerogenity categories

### · EPA (Environmental Protection Agency)

None of the ingredients is listed.

### · TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

### · NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

### · GHS label elements

Void

### · Hazard pictograms

Void

(Contd. on page 7)

**Trade name: HEPES buffer pH 8.0 (1 M), sterile**

(Contd. of page 6)

- **Signal word** Void
- **Hazard statements** Void
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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.

- **Department issuing SDS:** Dept. Compliance
- **Date of preparation / last revision** 03/17/2018 / 1
- **Abbreviations and acronyms:**

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

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit