



## Safety Data Sheet

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### 1. Identification of the substance/mixture and of the company/undertaking

#### Product identifier:

Product name: pH 7.4 Phosphate buffer solution

Product code(SDS NO): D0011E-1

#### Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka 540-0029, JAPAN

Division: Safety Management Dept. of Chemicals

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

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### 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

(Note) GHS classification without description: Not applicable/Out of classification/Not classifiable

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### 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Mixture

Ingredient name: Potassium dihydrogenphosphate

Content(%): 0.68

Chemical formula:  $\text{H}_2\text{KPO}_4$

Chemicals No, Japan: 1-452

CAS No.: 7778-77-0

MW: 136.1

ECNO: 231-913-4

Ingredient name: Sodium hydroxide

Content(%): 0.16

Chemical formula:  $\text{HNaO}$

Chemicals No, Japan: 1-410

CAS No.: 1310-73-2

MW: 40.0

ECNO: 215-185-5

Ingredient name: Water

Content(%): 99

Chemical formula:  $\text{H}_2\text{O}$

CAS No.: 7732-18-5

MW: 18.02

ECNO: 231-791-2

Note : The figures shown above are not the specifications of the product.



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#### 4. First-aid measures

##### Descriptions of first-aid measures

###### IF INHALED

Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.

###### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If skin irritation or rash occurs: Get medical advice/attention.

###### IF IN EYES

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

###### IF SWALLOWED

Rinse mouth.  
Call a POISON CENTER or doctor/physician if you feel unwell.

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#### 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

##### Specific hazards arising from the substance or mixture

Containers may explode when heated.  
Fire may produce irritating, corrosive and/or toxic gases.

##### Advice for firefighters

###### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

###### Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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#### 6. Accidental release measures

##### Personnel precautions, protective equipment and emergency procedures

Ventilate area after material pick up is complete.  
Wear proper protective equipment.

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

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

##### Preventive measures for secondary accident

Collect spillage.

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#### 7. Handling and storage

##### Precautions for safe handling

###### Preventive measures

(Protective measures against fire & explosion)

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

###### Exhaust/ventilator

Exhaust/ventilator should be available.

###### Safety treatments



pH 7.4 Phosphate buffer solution, KISHIDA CHEMICAL CO.,  
LTD., D0011E-1, 14/11/2017

Avoid contact with skin.

Avoid contact with eyes.

**Safety Measures/Incompatibility**

Wear protective gloves, protective clothing or face protection.

When using do not eat, drink or smoke.

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

**Recommendation for storage**

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

**8. Exposure controls/personal protection**

**Control parameters**

**Adopted value**

(Sodium hydroxide)

ACGIH(1992) STEL: C 2mg/m<sup>3</sup> (URT, eye & skin irr)

**OSHA-PEL**

(Sodium hydroxide)

TWA 2mg/m<sup>3</sup>

**Exposure controls**

**Appropriate engineering controls**

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

**Individual protection measures**

**Respiratory protection**

Wear respiratory protection.

**Hand protection**

Wear protective gloves.

**Eye protection**

Wear eye/face protection.

**9. Physical and Chemical Properties**

**Information on basic physical and chemical properties**

**Physical properties**

Appearance: Liquid

Color: Colorless, Clear

Odor data N.A.

pH: 7.4 (25°C)

**Phase change temperature**

Initial Boiling Point/Boiling point data N.A.

Melting point/Freezing point data N.A.

Decomposition temperature data N.A.

Flash point data N.A.

Auto-ignition temperature data N.A.

Explosive properties data N.A.

Vapor pressure data N.A.

Vapor density data N.A.

Specific gravity/Density: 1.00g/cm<sup>3</sup>

**Solubility**

Solubility in water: Miscible

n-Octanol /water partition coefficient data N.A.



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## 10. Stability and Reactivity

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

(Potassium dihydrogenphosphate)

Decomposes on heating. This produces toxic gases. The solution in water is a weak acid. (ICSC 1608)

(Sodium hydroxide)

The solution in water is a strong base. It reacts violently with acid and is corrosive to metals such as aluminium, tin, lead and zinc. This produces a combustible/explosive gas (hydrogen). Reacts with ammonium salts. This produces ammonia. This generates fire hazard. Contact with moisture and water generates heat. (ICSC 0360)

### Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

### Incompatible materials

Acids, Ammonium salts

### Hazardous decomposition products

Hydrogen, Ammonia

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[Company proprietary data]

(Potassium dihydrogenphosphate)

rat LD50=3200 mg/kg (HSDB)

rat LDLO=4640 mg/kg

##### Acute toxicity (Dermal)

[Company proprietary data]

(Potassium dihydrogenphosphate)

rabbit LD50>4640 mg/kg

#### Irritant properties

##### Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Sodium hydroxide)

pig/rabbit severe necrosis (ACGIH 7th, 2001 et al)

##### Serious eye damage /irritation

[GHS Cat. Japan, base data]

(Sodium hydroxide)

rabbit corrosive (SIDS, 2009)

No Allergenic and sensitizing effects data available

No Mutagenic effects data available

No Carcinogenic effects data available

No Teratogenic effects data available

No reproductive toxicity data available

No STOT-single/repeated exposure data available

No Aspiration hazard data available



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**12. Ecological Information****Toxicity****Aquatic toxicity****Aquatic acute toxicity component(s) data**

[GHS Cat. Japan, base data]

(Sodium hydroxide)

Crustacea (Ceriodaphnia reticulata) LC50=40.4mg/L/48hr (SIDS, 2004)

**Water solubility**

(Sodium hydroxide)

109 g/100 ml (20 C) (ICSC, 2010)

(Potassium dihydrogenphosphate)

22 g/100 ml (ICSC, 2005)

No Persistence and degradability data available

No Bioaccumulative potential data available

No Mobility in soil data available

Ozone depleting chemical data not available

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**13. Disposal considerations****Waste treatment methods**

Dispose of contents/container in accordance with local/national regulation.

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**14. Transport Information**

Not applicable to UN NO.

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Sodium hydroxide

Non Noxious Liquid ; Cat. OS

Water

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**15. Regulatory Information**

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

**US major regulations****TSCA**

Sodium hydroxide; Water; Potassium dihydrogenphosphate

**Other regulatory information**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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**16. Other information**

The product is not applicable to GHS classifications.

**Reference Book**

Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 19th edit., 2015 UN

Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)

2012 EMERGENCY RESPONSE GUIDEBOOK(US DOT)

2017 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/ENG/Classification/index.php>

Supplier's data/information

**General Disclaimer**



**KISHIDA**

pH 7.4 Phosphate buffer solution, KISHIDA CHEMICAL CO.,  
LTD., D0011E-1, 14/11/2017

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This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It is advised to make their own tests to determine the safety and suitability of each such product or combination for their own purposes.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2015).