

Material Safety Data Sheet

1. Product and company identification

Product name	Phthalate pH Standard Solution, pH4.01
Name of manufacturer	ATAGO CO., LTD.
Address	The Front Tower Shiba Koen, 23 rd Floor 2-6-3, Shiba-koen, Minato-ku, Tokyo 105-0011, Japan
Name of section	Planning Department
Telephone number	+81-3-3431-1943
Facsimile number	+81-3-3431-1945
E-mail Address	overseas@atago.net
MSDS No.	ph4004

2. Composition/Information on ingredients

Substance/Mixture	Substance
Chemical name or commercial name	Potassium hydrogen phthalate
Ingredients and composition	1%(0.04955mol/l) Potassium hydrogen phthalate in water
Chemical formula	C ₆ H ₄ (COOK)(COOH)
CAS No.	877-24-7
TSCA Inventory	Registered
EINECS No.	2128894

3. Summary of danger and Hazard

Adverse human health hazards	The chemical is estimated to have no particular toxicity.
Environmental effects	Nothing particular
Physical and Chemical hazards	Noncombustible and does not have particular physical and chemical hazards.

4. First aid measures

Inhalation	Remove the victim to fresh air, and make him blow his nose and gargle.
Skin contact	Wash the affected areas under running water.
Eye contact	Wash the affected areas under running water.
Ingestion	Give the victim water immediately.

5. Fire fighting measures

Extinguishing media	This product is noncombustible.
Particular fore fighting	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding

area.

6. Accidental release measures

Cautions for personnel If necessary, wear proper protective equipment.
 Cautions for environment Nothing particular
 Removal measure Absorb spill with paper or cloth.

7. Cautions of handling and storage

Handling

Engineering measures Avoid contact with skin.

Storage

Adequate storage condition Store in a dark, cool place and tightly closed.

Safety adequate container materials

Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures Install a local ventilation system under dense vapor or dusty condition.

Control parameters Not established

Protective equipment

Respiration protective equipment

Not necessary

Hands protective equipment If necessary, wear gloves.

Eyes protective equipment If necessary, wear goggles.

9. Physical and chemical properties

Appearance Liquid

Color Colorless

Odor Odorless

pH 4.01 at 25°C

Specific temperature or temperature range of physical conditions change

Boiling point Approx. 100°C

Melting point Approx. 0°C

Flash point Noncombustible

Specific gravity Approx. 1g/ml(at 20°C)

Solubility

Solubility in solvents Water: Freely soluble

10. Stability and reactivity

Stability Stable under normal usage.

Incompatible conditions Light, heat

11. Toxicological information

Acute toxicity The product is thin potassium hydrogen phthalate solution and does

not have particular human health hazards.

Local effect

Irritation to skin, eyes nothing particular

Allergenic and sensitizing effects

Not available

Chronic and long term toxicity Not available

Carcinogenic effects Listed on neither IARC nor NTP.

Mutagenicity Not available

Teratogenic effects Not available

Effects on the reproductive system

Not available

12. Ecological information

Mobility Not available

Reliability and degradability Not available

13. Disposal consideration

Residual disposal Flush in drains with plenty of water after neutralizing with alkaline substances.

Containers In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class Not applicable

The information contained herein is based on several references and the present state of our knowledge. However the MSDS does not always cover all information about the product, handle the product carefully.

The information is intended to ordinary usage, in case of particular handling, conduct appropriate safety measurements.

The information herein is only provision of information, and it does not represent a guarantee the properties of the product.

Material Safety Data Sheet

1. Product and company identification

Product name	Phosphate equimolar pH Standard Solution, pH6.86
Name of manufacturer	ATAGO CO., LTD.
Address	The Front Tower Shiba Koen, 23 rd Floor 2-6-3, Shiba-koen, Minato-ku, Tokyo 105-0011, Japan
Name of section	Planning Department
Telephone number	+81-3-3431-1943
Facsimile number	+81-3-3431-1945
E-mail Address	overseas@atago.net
MSDS No.	ph7004

2. Composition/Information on ingredients

Substance/Mixture	Mixture
Chemical name or commercial name	Potassium dihydrogenphosphate, Disodium hydrogenphosphate
Ingredients and composition	Water solution contains 0.34%(0.025mol/l) Potassium dihydrogen phosphate, 0.35%(0.025mol/l) disodium hydrogen phosphate
Chemical formula	Potassium dihydrogenphosphate KH ₂ PO ₄ Disodium hydrogenphosphate Na ₂ HPO ₄
CAS No.	Potassium dihydrogenphosphate 7778-77-0 Disodium hydrogenphosphate 7558-79-4

3. Summary of danger and Hazard

Adverse human health hazards	As the product is thin water solution of potassium dihydrogen phosphate and sodium dihydrogen phosphate, this solution does not have particular harmful effect.
------------------------------	---

Environmental effects	Nothing particular
-----------------------	--------------------

Physical and Chemical hazards	Noncombustible and does not have particular physical and chemical hazards.
-------------------------------	--

4. First aid measures

Inhalation	Remove the victim to fresh air, and make him blow his nose and gargle.
Skin contact	Wash the affected areas under running water.
Eye contact	Wash the affected areas under running water.
Ingestion	Give the victim water immediately.

5. Fire fighting measures

Extinguishing media	This product is noncombustible.
Particular fire fighting	Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

6. Accidental release measures

Cautions for personnel	If necessary, wear proper protective equipment.
Cautions for environment	Nothing particular
Removal measure	Absorb spill with paper or cloth.

7. Cautions of handling and storage

Handling

Engineering measures	Avoid contact with skin.
----------------------	--------------------------

Storage

Adequate storage condition	Store in a dark, cool place and tightly closed.
----------------------------	---

Safety adequate container materials

Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures	Install a local ventilation system under dense vapor or dusty condition.
Control parameters	Not established
Protective equipment	
Respiration protective equipment	Not necessary
Hands protective equipment	If necessary, wear gloves.
Eyes protective equipment	If necessary, wear goggles.

9. Physical and chemical properties

Appearance	Liquid
Color	Colorless
Odor	Odorless
pH	6.86 at 25°C
Specific temperature or temperature range of physical conditions change	
Boiling point	Approx. 100°C
Melting point	Approx. 0°C
Flash point	Noncombustible
Specific gravity	Approx. 1g/ml(at 20°C)
Solubility	
Solubility in solvents	Water: Freely soluble

10. Stability and reactivity

Stability	Stable under normal usage.
Incompatible conditions	Light, heat

11. Toxicological information

Acute toxicity	The product is thin potassium hydrogen phthalate solution and does not have particular human health hazards. Rat intraperitoneal LD ₅₀ =1000mg/kg Rabbit intravenous LD ₅₀ =1075mg/kg
Local effect	
Irritation to skin, eyes	(as Disodium hydrogen phosphate) nothing particular Rabbit skin 500mg/24H Mild
Allergenic and sensitizing effects	Not available
Chronic and long term toxicity	Not available
Carcinogenic effects	Listed on neither IARC nor NTP.
Mutagenicity	Not available
Teratogenic effects	Not available
Effects on the reproductive system	Not available

12. Ecological information

Mobility	Not available
Reliability and degradability	Not available

13. Disposal consideration

Residual disposal	Dilute the chemical with a large amount of water and flush in drains after confirming pH of the solution. Or consult approved disposal companies.
Containers	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class	Not applicable
----------	----------------

The information contained herein is based on several references and the present state of our knowledge. However the MSDS does not always cover all information about the product, handle the product carefully.

The information is intended to ordinary usage, in case of particular handling, conduct appropriate safety measurements.

The information herein is only provision of information, and it does not represent a guarantee the properties of the product.

Material Safety Data Sheet

1. Product and company identification

Product name	Borate pH Standard Solution , pH9.18
Name of manufacturer	ATAGO CO., LTD.
Address	The Front Tower Shiba Koen, 23 rd Floor 2-6-3, Shiba-koen, Minato-ku, Tokyo 105-0011, Japan
Name of section	Planning Department
Telephone number	+81-3-3431-1943
Facsimile number	+81-3-3431-1945
E-mail Address	overseas@atago.net
MSDS No.	ph9004

2. Composition/Information on ingredients

Substance/Mixture	Substance
Chemical name or commercial name	Sodium tetraborate decahydrate
Ingredients and composition	0.38%(0.009964mol/l) Sodium tetraborate decahydrate in water
Chemical formula	Na ₂ B ₄ O ₇ · 10H ₂ O
CAS No.	1303-96-4
TSCA Inventory	Registered
EINECS No.	-

3. Summary of danger and Hazard

Adverse human health hazards	The chemical does not have particular human health hazards, but a large dose swallow may cause nausea, vomiting, diarrhea.
Environmental effects	Nothing particular
Physical and Chemical hazards	Noncombustible and does not have particular physical and chemical hazards.

4. First aid measures

Inhalation	Remove the victim to fresh air, and make him blow his nose and gargle.
Skin contact	Wash the affected areas under running water.
Eye contact	Wash the affected areas under running water.
Ingestion	Give the victim water immediately.

5. Fire fighting measures

Extinguishing media	This product is noncombustible.
Particular fire fighting	Move containers from fire area if it can be done without risk, if not

possible, apply water from a safe distance to cool and protect surrounding area.

6. Accidental release measures

Cautions for personnel If necessary, wear proper protective equipment.

Cautions for environment Nothing particular

Removal measure Absorb spill with paper or cloth.

7. Cautions of handling and storage

Handling

Engineering measures Avoid contact with skin.

Storage

Adequate storage condition Store in a dark, cool place and tightly closed.

Safety adequate container materials

Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures Install a local ventilation system under dense vapor or dusty condition.

Control parameters ACGIH(2002); 5mg/m³(as Sodium tetraborate decahydrate)(TLV-TWA)

Protective equipment

Respiration protective equipment

Not necessary

Hands protective equipment If necessary, wear gloves.

Eyes protective equipment If necessary, wear goggles.

9. Physical and chemical properties

Appearance Liquid

Color Colorless

Odor Odorless

pH 9.18 at 25°C

Specific temperature or temperature range of physical conditions change

Boiling point Approx. 100°C

Melting point Approx. 0°C

Flash point Noncombustible

Specific gravity Approx. 1g/ml(at 20°C)

Solubility

Solubility in solvents Water: Freely soluble

10. Stability and reactivity

Stability Stable under normal usage.

Incompatible conditions Light, heat

11. Toxicological information

Acute toxicity	If swallowed a large dose, may cause disorder of liver, kidneys, and central nerve system. (as Sodium tetraborate decahydrate) Rat oral LD50=2660mg/kg Human oral LDL 0=703mg/kg
Local effect	
Irritation to skin, eyes	If contacted with eyes, eyes are irritated.
Allergenic and sensitizing effects	Not available
Chronic and long term toxicity	Not available
Carcinogenic effects	Listed on neither IARC nor NTP.
Mutagen city	Not available
Teratogenic effects	Not available
Effects on the reproductive system	Not available

12. Ecological information

Mobility	Not available
Reliability and degradability	Not available

13. Disposal consideration

Residual disposal	Dilute with water and adjust pH of the solution. After that, flush in drains with plenty of water. Or consult approved disposal companies.
Containers	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class	Not applicable
----------	----------------

The information contained herein is based on several references and the present state of our knowledge. However the MSDS does not always cover all information about the product, handle the product carefully.

The information is intended to ordinary usage, in case of particular handling, conduct appropriate safety measurements.

The information herein is only provision of information, and it does not represent a guarantee the properties of the product.