

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: pH 4.00 buffer Solution
Application: pH Buffer Solution for calibrating pH probes, $\pm 0.01 @ 25^{\circ}\text{C}$
Supplier Name:

SECTION 2: HAZARD IDENTIFICATION

Non-hazardous product as specified in Directives 67/548/EEC and 1999/45/EC
Non-hazardous product as specified in OSHA regulation 29 CFR 1910.1200

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Aqueous buffer solution

SECTION 4: FIRST AID MEASURES

If Inhaled: Remove person to fresh air. Call a physician if breathing becomes difficult.
In Case of Skin Contact: Wash affected area with water and soap
In Case of Eye Contact: Flush out with plenty of water for at least 15 minutes. If pain persists, seek medical attention.
In Case of Swallowing: Wash out mouth with plenty of water, provided the person is conscious. Seek medical attention if feeling unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water Spray, Foam, Dry Powder, Carbon Dioxide
Special Risks: Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.
Special Protective Equipment: Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: None **Environmental Precautions:** None
Additional Notes: None

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with eyes
Storage: Keep container closed and protected from direct sunlight. Store at room temperature (15°C to 25°C)

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering:	Maintain general industrial hygiene practice.
Personal Protective Equipment:	As appropriate to quantity handled.
Respiratory Protection:	Required when vapors/aerosols are generated.
Protective Gloves:	Rubber or plastic
Eye Protection:	Goggles or face mask
Industrial Hygiene:	Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid	Appearance: Light red liquid
Odor: Odorless	Melting Point: NA
Boiling point: >100°C	Solubility: Soluble
pH@25°C: 4.00	Explosion Limit: NA
Flash Point: NA	Thermal Decomp.: NA

SECTION 10: STABILITY AND REACTIVITY

Conditions to be avoided:	Heating
Hazardous Decomposition Products:	See section 5.
Hazardous Polymerization:	Will not occur
Substances to be avoided:	The generally known reaction partners of water
Further Information:	Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available

Potential Health Effects:

Further Data: Hazardous properties can't be excluded, but are relatively because of the low concentration of the dissolved substances, when the product is handled appropriately. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity: Not Available **Chronic Toxicity:** Not Available **Additional Data:** Not Available

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecological effect of the product is not available.

Further Data: No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Can be safely disposed of as ordinary refuse.

Safety Data Sheet

According to the rules for safety data sheet of
the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 14: TRANSPORTATION INFORMATION

Land: Not subject to transport regulations

Air: Not subject to transport regulations

Sea: Not subject to transport regulations

SECTION 15: REGULATORY INFORMATION

Labeling according to the rules for the safety data sheet of the Global Harmonized System (GHS)

Non-hazardous according to EC Directives 67/548/EEC and 1999/45/EC

SECTION 16: OTHER INFORMATION

Revision Date: 1-1-2024

Supersedes edition of: MSDS Sheet

**THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR
KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO
THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF
THE PROPERTIES OF THE PRODUCT.**

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: pH 7.00 buffer Solution
Application: pH Buffer Solution for calibrating pH probes, $\pm 0.01 @ 25^{\circ}\text{C}$
Supplier Name:

SECTION 2: HAZARD IDENTIFICATION

Non-hazardous product as specified in Directives 67/548/EEC and 1999/45/EC
Non-hazardous product as specified in OSHA regulation 29 CFR 1910.1200

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Aqueous buffer solution

SECTION 4: FIRST AID MEASURES

If Inhaled: Remove person to fresh air. Call a physician if breathing becomes difficult.
In Case of Skin Contact: Wash affected area with water and soap
In Case of Eye Contact: Flush out with plenty of water for at least 15 minutes. If pain persists, seek medical attention.
In Case of Swallowing: Wash out mouth with plenty of water, provided the person is conscious. Seek medical attention if feeling unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water Spray, Foam, Dry Powder, Carbon Dioxide
Special Risks: Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.
Special Protective Equipment: Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: None **Environmental Precautions:** None
Additional Notes: None

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with eyes
Storage: Keep container closed and protected from direct sunlight. Store at room temperature (15°C to 25°C)

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering:	Maintain general industrial hygiene practice.
Personal Protective Equipment:	As appropriate to quantity handled.
Respiratory Protection:	Required when vapors/aerosols are generated.
Protective Gloves:	Rubber or plastic
Eye Protection:	Goggles or face mask
Industrial Hygiene:	Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid	Appearance: Light green liquid
Odor: Odorless	Melting Point: NA
Boiling point: >100°C	Solubility: Soluble
pH@25°C: 7.00	Explosion Limit: NA
Flash Point: NA	Thermal Decomp.: NA

SECTION 10: STABILITY AND REACTIVITY

Conditions to be avoided:	Heating
Hazardous Decomposition Products:	See section 5.
Hazardous Polymerization:	Will not occur
Substances to be avoided:	The generally known reaction partners of water
Further Information:	Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available

Potential Health Effects:

Further Data: Hazardous properties can't be excluded, but are relatively because of the low concentration of the dissolved substances, when the product is handled appropriately. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity: Not Available **Chronic Toxicity:** Not Available **Additional Data:** Not Available

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecological effect of the product is not available.

Further Data: No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Can be safely disposed of as ordinary refuse.

Safety Data Sheet

According to the rules for safety data sheet of
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Revision Date: 01/01/2024

SECTION 14: TRANSPORTATION INFORMATION

Land: Not subject to transport regulations

Air: Not subject to transport regulations

Sea: Not subject to transport regulations

SECTION 15: REGULATORY INFORMATION

Labeling according to the rules for the safety data sheet of the Global Harmonized System (GHS)

Non-hazardous according to EC Directives 67/548/EEC and 1999/45/EC

SECTION 16: OTHER INFORMATION

Revision Date: 1-1-2024

Supersedes edition of: MSDS Sheet

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KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO
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THE PROPERTIES OF THE PRODUCT.**

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 1 / 1 / 2 0 2 4

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: pH 10.01 buffer Solution
Application: pH Buffer Solution for calibrating pH probes, $\pm 0.01 @ 25^{\circ}\text{C}$
Supplier Name:

SECTION 2: HAZARD IDENTIFICATION

Non-hazardous product as specified in **Directives 67/548/EEC** and **1999/45/EC**
Non-hazardous product as specified in **OSHA regulation 29 CFR 1910.1200**

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Aqueous buffer solution

SECTION 4: FIRST AID MEASURES

If Inhaled: Remove person to fresh air. Call a physician if breathing becomes difficult.
In Case of Skin Contact: Wash affected area with water and soap.
In Case of Eye Contact: Flush out with plenty of water for at least 15 minutes. If pain persists, seek medical attention.
In Case of Swallowing: Wash out mouth with plenty of water, provided the person is conscious. Seek medical attention if feeling unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Water Spray, Foam, Dry Powder, Carbon Dioxide
Special Risks: Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.
Special Protective Equipment: Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: None **Environmental Precautions:** None
Additional Notes: None

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with eyes
Storage: Keep container closed and protected from direct sunlight. Store at room temperature (15°C to 25°C)

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 1 / 1 / 2 0 2 4

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering:	Maintain general industrial hygiene practice.
Personal Protective Equipment:	As appropriate to quantity handled.
Respiratory Protection:	Required when vapors/aerosols are generated.
Protective Gloves:	Rubber or plastic
Eye Protection:	Goggles or face mask
Industrial Hygiene:	Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid	Appearance: Blue liquid
Odor: Odorless	Melting Point: NA
Boiling point: >100°C	Solubility: Soluble
pH@25°C: 10.01	Explosion Limit: NA
Flash Point: NA	Thermal Decomp.: NA

SECTION 10: STABILITY AND REACTIVITY

Conditions to be avoided:	Heating
Hazardous Decomposition Products:	See section 5.
Hazardous Polymerization:	Will not occur
Substances to be avoided:	The generally known reaction partners of water
Further Information:	Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available

Potential Health Effects:

Further Data: Hazardous properties can't be excluded, but are relatively because of the low concentration of the dissolved substances, when the product is handled appropriately. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity: Not Available **Chronic Toxicity:** Not Available **Additional Data:** Not Available

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecological effect of the product is not available.

Further Data: No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Can be safely disposed of as ordinary refuse.

Safety Data Sheet

According to the rules for safety data sheet of
the Global Harmonized System (GHS)
Revision Date: 1 / 1 / 2 0 2 4

SECTION 14: TRANSPORTATION INFORMATION

Land: Not subject to transport regulations

Air: Not subject to transport regulations

Sea: Not subject to transport regulations

SECTION 15: REGULATORY INFORMATION

Labeling according to the rules for the safety data sheet of the Global Harmonized System (GHS)

Non-hazardous according to EC Directives 67/548/EEC and 1999/45/EC

SECTION 16: OTHER INFORMATION

Revision Date: 1/1/2024

Supersedes edition of: MSDS Sheet

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THE PROPERTIES OF THE PRODUCT.**

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: Conductivity Standard Solution 1413 $\mu\text{S}/\text{cm}$
Application: Conductivity Standard Solution, $\pm 0.3\%$ @25°C
Supplier Name: Shanghai SAN-XIN Instrumentation Inc.
4F,Building#16,No.481 Guiping Road Tel : (86-21)63362480
Shanghai China 200233 Fax : (86-21)64956880
sanxin@shsan-xin.com

SECTION 2: HAZARD IDENTIFICATION

Non-hazardous product as specified in Directives 67/548/EEC and 1999/45/EC
Non-hazardous product as specified in OSHA regulation 29 CFR 1910.1200

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Aqueous Standard Solution

%	CHEMICAL NAME(S)
0.07%	Potassium Chloride
99.93%	Water

SECTION 4: FIRST AID MEASURES

After Inhalation: Remove to fresh air. Call a physician if breathing becomes difficult.
After Skin Contact: Wash affected area with water and soap
After Eye Contact: Rinse out with plenty of water for at least 15 minutes. If pain persists, summon medical advice.
After Swallowing: Wash out mouth with plenty of water, provided person is conscious. Obtain medical attention if feeling unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Water Spray, Foam, Dry Powder, Carbon Dioxide

Special Risks:

Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.

Special Protective Equipment:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: None **Environmental Precautions:** None
Additional Notes: None

SECTION 7: HANDLING AND STORAGE

Handling: No Restrictions

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

Storage: Keep container closed and protected from direct sunlight. Store at room temperature (+15°C to +25°C).

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering: Maintain general industrial hygiene practice.
Personal Protective Equipment: As appropriate to quantity handled.
Respiratory Protection: Required when vapors/aerosols are generated.
Protective Gloves: Rubber or plastic
Eye Protection: Goggles or face mask
Industrial Hygiene: Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Appearance: Colorless Odor: Odorless
Melting Point: NA Boiling point: >100°C Solubility: Soluble
Cond.@25°C: 1413 µS/cm Explosion Limit: NA Flash Point: NA
Thermal Decomp.: NA

SECTION 10: STABILITY AND REACTIVITY

Conditions to be avoided: Heating
Hazardous Decomposition Products: See section 5.
Hazardous Polymerization: Will not occur
Substances to be avoided: The generally known reaction partners of water
Further Information: Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available

Potential Health Effects:

Further Data: Hazardous properties can't be excluded, but are relatively because of the low concentration of the dissolved substances, when the product is handled appropriately. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity: Not Available **Chronic Toxicity:** Not Available **Additional Data:** Not Available

SECTION 12: ECOLOGICAL INFORMATION

Quantitative data on the ecological effect of the product is not available.

Further Data: No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

Waste Disposal: Can be safely disposed of as ordinary refuse.

SECTION 14: TRANSPORTATION INFORMATION

Land: Not subject to transport regulations

Air: Not subject to transport regulations

Sea: Not subject to transport regulations

SECTION 15: REGULATORY INFORMATION

Labeling according to the rules for the safety data sheet of the Global Harmonized System (GHS)

Non-hazardous according to EC Directives 67/548/EEC and 1999/45/EC

SECTION 16: OTHER INFORMATION

Revision Date: 2024-01-01

Supersedes edition of: MSDS Sheet

Reason for revision: OSHA has set deadlines (by 06/01/2015) for the implementation of the newly required SDS (Safety Data Sheets) replacing the old MSDS (Material Safety Data Sheets).

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Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

Product Name: Dissolved Oxygen Electrode Reference Solution
Application: Reference solution for the dissolved oxygen electrode
Supplier Name: Apera Instruments, LLC
6656 Busch Blvd. Tel: 1(614) 285-3080
Columbus, Ohio, 43229 <https://aperainst.com>

SECTION 2: HAZARD IDENTIFICATION

Non-hazardous product as specified in **Directives 67/548/EEC** and **1999/45/EC**

Non-hazardous product as specified in **OSHA regulation 29 CFR 1910.1200**

SECTION 3: COMPOSITION AND COMPONENT INFORMATION

Percentage (%)	CHEMICAL NAME(S)
13%	Potassium Chloride
9%	Sodium Carbonate
8%	Sodium Bicarbonate
70%	Water

SECTION 4: FIRST AID MEASURES

If Inhaled: Remove person to fresh air. Call a physician if breathing becomes difficult.
In Case of Skin Contact: Wash affected area with water and soap.
In Case of Eye Contact: Flush out with plenty of water for at least 15 minutes. If pain persists, seek medical attention.
In Case of Swallowing: Wash out mouth with plenty of water, provided the person is conscious. Seek medical attention if feeling unwell.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Water Spray, Foam, Dry Powder, Carbon Dioxide

Special Risks:

Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.

Special Protective Equipment:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: None **Environmental Precautions:** None

Additional Notes: None

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)

Revision Date: 01/01/2024

SECTION 7: HANDLING AND STORAGE

Handling: Avoid contact with eyes

Storage: Keep container closed and protected from direct sunlight. Store at room temperature (15°C to 25°C)

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering: Maintain general industrial hygiene practice.

Personal Protective Equipment: As appropriate to quantity handled.

Respiratory Protection: Required when vapors/aerosols are generated.

Protective Gloves: Rubber or plastic

Eye Protection: Goggles or face mask

Industrial Hygiene: Change contaminated clothing. Wash hands after working with substance.

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

Physical State: Liquid Appearance: Colorless

Odor: Odorless Melting Point: NA

Boiling point: >100°C Solubility: Soluble

Explosion Limit: NA Flash Point: NA

Thermal Decomp.: NA

SECTION 10: STABILITY AND REACTIVITY

Conditions to be avoided: Heating

Hazardous Decomposition Products: See section 5.

Hazardous Polymerization: Will not occur

Substances to be avoided: The generally known reaction partners of water

Further Information: Not available

SECTION 11: TOXICOLOGICAL INFORMATION

Product Toxicity

Quantitative data on the toxicity of this product is not available

Potential Health Effects:

Further Data: Hazardous properties can't be excluded, but are relatively because of the low concentration of the dissolved substances, when the product is handled appropriately. The product should be handled with the usual care when dealing with chemicals.

Component Toxicity

Acute Toxicity: Not Available

Chronic Toxicity: Not Available

Additional Data: Not Available

SECTION 12: ECOLOGICAL INFORMATION

Safety Data Sheet

According to the rules for safety data sheet of the Global Harmonized System (GHS)
Revision Date: 01/01/2024

Quantitative data on the ecological effect of the product is not available.

Further Data: No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Can be safely disposed of as ordinary refuse.

SECTION 14: TRANSPORTATION INFORMATION

Land: Not subject to transport regulations

Air: Not subject to transport regulations

Sea: Not subject to transport regulations

SECTION 15: REGULATORY INFORMATION

Labeling according to the rules for the safety data sheet of the Global Harmonized System (GHS)

Non-hazardous according to EC Directives 67/548/EEC and 1999/45/EC

SECTION 16: OTHER INFORMATION

Revision Date: 2024/01/01

Supersedes edition of: MSDS Sheet

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