

SAFETY DATA SHEET



pH Buffer Package (4.01, 7.00, 10.01), Part Number 5190-0533

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : pH Buffer Package (4.01, 7.00, 10.01), Part Number 5190-0533
Part No. (Kit) : 5190-0533
Part No. : Buffer, pH 4.01 - Color Coded Red, Standard 5190-0535-1
Buffer, pH 7.00 - Color Coded Yellow, Standard 5190-0537-1
Buffer, pH 10.01 - Color Coded Blue, Standard 5190-0536-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	
Analytical chemistry.	
Buffer, pH 4.01 - Color Coded Red, Standard	1 x 250 ml
Buffer, pH 7.00 - Color Coded Yellow, Standard	1 x 250 ml
Buffer, pH 10.01 - Color Coded Blue, Standard	1 x 250 ml

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Buffer, pH 4.01 - Color Coded Red, Standard Mixture
Buffer, pH 7.00 - Color Coded Yellow, Standard Mixture
Buffer, pH 10.01 - Color Coded Blue, Standard Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

Ingredients of unknown toxicity : Buffer, pH 4.01 - Color Coded Red, Standard Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 1%
Buffer, pH 7.00 - Color Coded Yellow, Standard Not applicable.
Buffer, pH 10.01 - Color Coded Blue, Standard Not applicable.

Date of issue/Date of revision : 24/06/2016

SECTION 2: Hazards identification

Ingredients of unknown ecotoxicity	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1% Not applicable. Not applicable.
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See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No signal word. No signal word. No signal word.
Hazard statements	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Precautionary statements

Prevention	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Response	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Storage	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Disposal	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Hazardous ingredients	: No hazardous ingredient	
Supplemental label elements	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.

SECTION 2: Hazards identification

Special packaging requirements

Tactile warning of danger	: Buffer, pH 4.01 - Color Coded Red, Standard	Not applicable.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not applicable.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: Buffer, pH 4.01 - Color Coded Red, Standard	None known.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	None known.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures	: Buffer, pH 4.01 - Color Coded Red, Standard	Mixture
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Mixture
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Mixture

Product/ingredient name

No hazardous ingredient

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: Buffer, pH 4.01 - Color Coded Red, Standard	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.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	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.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	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.
Inhalation	: Buffer, pH 4.01 - Color Coded Red, Standard	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

SECTION 4: First aid measures

Skin contact	: Buffer, pH 4.01 - Color Coded Red, Standard	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Buffer, pH 10.01 - Color Coded Blue, Standard	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Buffer, pH 4.01 - Color Coded Red, Standard	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.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	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.
	Buffer, pH 10.01 - Color Coded Blue, Standard	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.
Protection of first-aiders	: Buffer, pH 4.01 - Color Coded Red, Standard	No action shall be taken involving any personal risk or without suitable training.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	No action shall be taken involving any personal risk or without suitable training.
	Buffer, pH 10.01 - Color Coded Blue, Standard	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed**Potential acute health effects**

Eye contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Inhalation	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Skin contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Ingestion	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.

Over-exposure signs/symptoms

SECTION 4: First aid measures

Eye contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
Inhalation	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
Skin contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
Ingestion	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: Buffer, pH 4.01 - Color Coded Red, Standard	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific treatment.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific treatment.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific treatment.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing media	: Buffer, pH 4.01 - Color Coded Red, Standard	Use an extinguishing agent suitable for the surrounding fire.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Use an extinguishing agent suitable for the surrounding fire.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Buffer, pH 4.01 - Color Coded Red, Standard	None known.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	None known.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	None known.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides No specific data. No specific data.

5.3 Advice for firefighters

Special precautions for fire-fighters	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	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. 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. 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.
Special protective equipment for fire-fighters	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	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. Put on appropriate personal protective equipment. 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. Put on appropriate personal protective equipment. 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. Put on appropriate personal protective equipment.
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SECTION 6: Accidental release measures

For emergency responders	: Buffer, pH 4.01 - Color Coded Red, Standard	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Buffer, pH 7.00 - Color Coded Yellow, Standard	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	Buffer, pH 10.01 - Color Coded Blue, Standard	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: Buffer, pH 4.01 - Color Coded Red, Standard	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).
	Buffer, pH 7.00 - Color Coded Yellow, Standard	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).
	Buffer, pH 10.01 - Color Coded Blue, Standard	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).
6.3 Methods and material for containment and cleaning up		
Methods for cleaning up	: Buffer, pH 4.01 - Color Coded Red, Standard	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Buffer, pH 10.01 - Color Coded Blue, Standard	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
6.4 Reference to other sections	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: Buffer, pH 4.01 - Color Coded Red, Standard	Put on appropriate personal protective equipment (see Section 8).
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Put on appropriate personal protective equipment (see Section 8).
	Buffer, pH 10.01 - Color Coded Blue, Standard	Put on appropriate personal protective equipment (see Section 8).

SECTION 7: Handling and storage

Advice on general occupational hygiene	: Buffer, pH 4.01 - Color Coded Red, Standard	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. See also Section 8 for additional information on hygiene measures.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	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. See also Section 8 for additional information on hygiene measures.
	Buffer, pH 10.01 - Color Coded Blue, Standard	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. See also Section 8 for additional information on hygiene measures.
7.2 Conditions for safe storage, including any incompatibilities	: Buffer, pH 4.01 - Color Coded Red, Standard	Store in accordance with local regulations. 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. 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.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Store in accordance with local regulations. 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. 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.
	Buffer, pH 10.01 - Color Coded Blue, Standard	Store in accordance with local regulations. 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. 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.
7.3 Specific end use(s)		
Recommendations	: Buffer, pH 4.01 - Color Coded Red, Standard	Industrial applications, Professional applications.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Industrial applications, Professional applications.
	Buffer, pH 10.01 - Color Coded Blue, Standard	Industrial applications, Professional applications.
Industrial sector specific solutions	: Buffer, pH 4.01 - Color Coded Red, Standard	Not applicable.
	Buffer, pH 7.00 - Color Coded Yellow, Standard	Not applicable.
	Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

No exposure limit value known.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : 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.

Eye/face protection : 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.

Skin protection

Hand protection : 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.

Body protection : 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.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : 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.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Physical state	: Buffer, pH 4.01 - Color Coded Red, Standard	Liquid.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Liquid.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Liquid.
Colour	: Buffer, pH 4.01 - Color Coded Red, Standard	Pink [Light]
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Yellow. [Light]
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Blue. [Light]
Odour	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.
Odour threshold	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.
pH	: Buffer, pH 4.01 - Color Coded Red, Standard	4.01
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	7
	: Buffer, pH 10.01 - Color Coded Blue, Standard	10.01
Melting point/freezing point	: Buffer, pH 4.01 - Color Coded Red, Standard	0°C
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	0°C
	: Buffer, pH 10.01 - Color Coded Blue, Standard	0°C
Initial boiling point and boiling range	: Buffer, pH 4.01 - Color Coded Red, Standard	100°C
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	100°C
	: Buffer, pH 10.01 - Color Coded Blue, Standard	100°C
Flash point	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.
Evaporation rate	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.

SECTION 9: Physical and chemical properties

Flammability (solid, gas)	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not applicable. Not applicable. Not applicable.
Upper/lower flammability or explosive limits	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Vapour pressure	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Vapour density	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Relative density	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	1 1 1
Solubility(ies)	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Auto-ignition temperature	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Decomposition temperature	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.
Viscosity	: Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	Not available. Not available. Not available.

SECTION 9: Physical and chemical properties

Explosive properties	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.
Oxidising properties	: Buffer, pH 4.01 - Color Coded Red, Standard	Not available.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Not available.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific test data related to reactivity available for this product or its ingredients.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific test data related to reactivity available for this product or its ingredients.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Buffer, pH 4.01 - Color Coded Red, Standard	The product is stable.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	The product is stable.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	The product is stable.
10.3 Possibility of hazardous reactions	: Buffer, pH 4.01 - Color Coded Red, Standard	Under normal conditions of storage and use, hazardous reactions will not occur.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Under normal conditions of storage and use, hazardous reactions will not occur.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
10.5 Incompatible materials	: Buffer, pH 4.01 - Color Coded Red, Standard	May react or be incompatible with oxidising materials.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	May react or be incompatible with oxidising materials.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	: Buffer, pH 4.01 - Color Coded Red, Standard	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Chronic toxicity / Carcinogenicity / Mutagenicity / Teratogenicity / Reproductive toxicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Buffer, pH 4.01 - Color Coded Red, Standard Not available.
 Buffer, pH 7.00 - Color Coded Yellow, Standard Not available.
 Buffer, pH 10.01 - Color Coded Blue, Standard Not available.

Potential acute health effects

Inhalation	:	Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	:	Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	:	Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Eye contact	:	Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	Buffer, pH 4.01 - Color Coded Red, Standard Buffer, pH 7.00 - Color Coded Yellow, Standard Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data. No specific data. No specific data.
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SECTION 11: Toxicological information

Ingestion	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
Skin contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.
Eye contact	: Buffer, pH 4.01 - Color Coded Red, Standard	No specific data.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No specific data.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No specific data.

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

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Carcinogenicity	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Mutagenicity	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Teratogenicity	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.
Developmental effects	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Fertility effects	: Buffer, pH 4.01 - Color Coded Red, Standard	No known significant effects or critical hazards.
	: Buffer, pH 7.00 - Color Coded Yellow, Standard	No known significant effects or critical hazards.
	: Buffer, pH 10.01 - Color Coded Blue, Standard	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : 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.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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.

SECTION 14: Transport information

Regulatory information

ADR/RID / IMDG / IATA : Not regulated.

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Buffer, pH 4.01 - Color Coded Red, Standard Not applicable.
Buffer, pH 7.00 - Color Coded Yellow, Standard Not applicable.
Buffer, pH 10.01 - Color Coded Blue, Standard Not applicable.

Other EU regulations

Europe inventory : All components are listed or exempted.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

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 Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

International lists

National inventory

Australia : All components are listed or exempted.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Japan : **Japan inventory (ENCS):** All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.
Malaysia : Not determined.

SECTION 15: Regulatory information

New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: Not determined.
United States	: All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Date of issue/ Date of revision : 24/06/2016

Date of previous issue : No previous validation.

Version : 1

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