

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
Trade name : BUFFER pH 3-8
Product code : 202061x, 202062x, 202064x, 202065x, 202067x, 202069x

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

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
6 Wakefield Road
Founders Hill
1609 Johannesburg - South Africa
T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Flammable liquids Not classified
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2A H319
Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS07

Signal word (GHS-ZA) : Warning
Hazard statements (GHS-ZA) : H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
Precautionary statements (GHS-ZA) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice, Causes skin irritation, Causes serious eye irritation.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
water	(CAS-No.) 7732-18-5	> 95	Not classified
disodium hydrogenorthophosphate	(CAS-No.) 7558-79-4	< 3	Aquatic Acute Not classified

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According to SANS 10234:2019 and SANS 11014:2010

Name	Product identifier	%	Classification according to the United Nations GHS
citric acid, monohydrate	(CAS-No.) 5949-29-1	< 2	Acute Tox. Not classified (Oral) Skin Corr. 1, H314 Aquatic Acute Not classified
formaldehyde	(CAS-No.) 50-00-0	< 0.1	Flam. Liq. 4, H227 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : 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.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects after skin contact : Irritation.
- Symptoms/effects after eye contact : Eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material.
- Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store in a well-ventilated place. Keep cool.

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According to SANS 10234:2019 and SANS 11014:2010

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

formaldehyde (50-00-0)	
South Africa - Occupational Exposure Limits (Control Limits)	
Local name	Formaldehyde
OEL TWA (mg/m ³)	3 mg/m ³
OEL TWA (ppm)	2 ppm
OEL STEL (mg/m ³)	3 mg/m ³
OEL STEL (ppm)	2 ppm
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Colour : light green.
Odour : No data available
Odour threshold : No data available
pH : 7
pH solution : No data available
Relative evaporation rate (butylacetate=1) : No data available
Relative evaporation rate (ether=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : No data available
Vapour pressure at 50 °C : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available
Relative density of saturated gas/air mixture : No data available
Density : No data available
Relative gas density : No data available
Solubility : completely miscible.
Partition coefficient n-octanol/water (Log Pow) : No data available

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According to SANS 10234:2019 and SANS 11014:2010

Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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 (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

citric acid, monohydrate (5949-29-1)	
LD50 oral	5400 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male / female, Experimental value, Anhydrous form, Oral, 10 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
disodium hydrogenorthophosphate (7558-79-4)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal	<

Skin corrosion/irritation	: Causes skin irritation. pH: 7
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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According to SANS 10234:2019 and SANS 11014:2010

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

citric acid, monohydrate (5949-29-1)	
LC50 fish 1	440 – 760 mg/l (Equivalent or similar to OECD 203, 48 h, Leuciscus idus, Static system, Fresh water, Experimental value, Anhydrous form)
EC50 Daphnia 1	1535 mg/l (Other, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Anhydrous form)
Partition coefficient n-octanol/water (Log Pow)	-1.8 – -1.55 (Anhydrous form, Experimental value)

disodium hydrogenorthophosphate (7558-79-4)	
LC50 fish 1	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 (algae)	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)

12.2. Persistence and degradability

BUFFER pH 3-8	
Persistence and degradability	No additional information available

citric acid, monohydrate (5949-29-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.481 g O ₂ /g substance
Chemical oxygen demand (COD)	0.665 g O ₂ /g substance

disodium hydrogenorthophosphate (7558-79-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

formaldehyde (50-00-0)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

BUFFER pH 3-8	
Bioaccumulative potential	No additional information available

citric acid, monohydrate (5949-29-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.8 – -1.55 (Anhydrous form, Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

disodium hydrogenorthophosphate (7558-79-4)	
Bioaccumulative potential	Not bioaccumulative.

formaldehyde (50-00-0)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

BUFFER pH 3-8	
Mobility in soil	No additional information available

citric acid, monohydrate (5949-29-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.8 – -1.55 (Anhydrous form, Experimental value)
Ecology - soil	No (test)data on mobility of the substance available.

disodium hydrogenorthophosphate (7558-79-4)	
Ecology - soil	No (test)data on mobility of the substance available.

formaldehyde (50-00-0)	
Ecology - soil	Contains component(s) with potential for mobility in the soil. Toxic to flora.

12.5. Other adverse effects

Ozone	: Not classified
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According to SANS 10234:2019 and SANS 11014:2010

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No :	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

No data available

- IMDG

No data available

- IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012;SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 14/02/2020

Revision date : 14/02/2025

Full text of H-statements:

H227	Combustible liquid
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.