

11/30/2023

Kit Components

Product code	Description
--------------	-------------

CMG-1033-S	Chemagic Viral DNA/RNA 300 Kit H96
-------------------	-------------------------------------------

Components:

13808043	Lysis Buffer P
13808024	Binding Buffer P
13808050	Wash Buffer E
13808041	Wash Buffer P
13808055	Wash Buffer H
13808062	Elution Buffer
13808071	Proteinase K
13808048	Poly(A)RNA Buffer
13809185	Magnetic beads

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

1 Identification

- **Product identifier**
- **Trade name:** Lysis Buffer P
- **Article number:** 13808043
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion 1C

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Acute Toxicity - Dermal 4

H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4

H332 Harmful if inhaled.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

GHS07

- **Signal word** *Danger*

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: **Lysis Buffer P**

(Contd. of page 1)

- **Hazard-determining components of labeling:**

guanidinium thiocyanate

- **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

- **Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1

FIRE 0 Fire = 0

REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

593-84-0	guanidinium thiocyanate	50-75%
----------	-------------------------	--------

- **Other ingredients**

7732-18-5	water	25-50%
-----------	-------	--------

* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: **Lysis Buffer P**

(Contd. of page 2)

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately rinse with water.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Immediately call a doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:** Dilute with plenty of water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

593-84-0	guanidinium thiocyanate	0.98 mg/m ³
----------	-------------------------	------------------------

- **PAC-2:**

593-84-0	guanidinium thiocyanate	11 mg/m ³
----------	-------------------------	----------------------

- **PAC-3:**

593-84-0	guanidinium thiocyanate	65 mg/m ³
----------	-------------------------	----------------------

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- **Information about protection against explosions and fires:** Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Lysis Buffer P

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

US

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Lysis Buffer P

(Contd. of page 4)

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Fluid
· Color:	Yellow tint
· Odor:	Sulphurous
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F):	1.14-1.15 g/cm ³ (9.51-9.6 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
· Water:	Fully miscible.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Water:	38.1 %
· VOC content:	0.00 %
· Solids content:	0.0 %
· Other information	
No further relevant information available.	

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Lysis Buffer P

(Contd. of page 5)

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Hand over to hazardous waste disposers.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS



Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: *Lysis Buffer P*

(Contd. of page 6)

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p style="margin: 0;">UN1760</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	<p style="margin: 0;"><i>Corrosive liquids, n.o.s. (guanidinium thiocyanate)</i></p> <p style="margin: 0;"><i>1760 CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate)</i></p> <p style="margin: 0;"><i>CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate)</i></p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  <p style="margin: 0;">CORROSIVE 8</p> </div> <p style="margin: 0;">8 Corrosive substances</p> <p style="margin: 0;">8</p>
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	<div style="text-align: center;">  <p style="margin: 0;">CORROSIVE 8</p> </div> <p style="margin: 0;">8 Corrosive substances</p> <p style="margin: 0;">8</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p style="margin: 0;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p style="margin: 0;">No</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code 	<p style="margin: 0;"><i>Warning: Corrosive substances</i></p> <p style="margin: 0;">80</p> <p style="margin: 0;">F-A,S-B</p> <p style="margin: 0;">B</p> <p style="margin: 0;"><i>SW2 Clear of living quarters.</i></p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code 	<p style="margin: 0;">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations 	<p style="margin: 0;"><i>On passenger aircraft/rail: 60 L</i></p> <p style="margin: 0;"><i>On cargo aircraft only: 220 L</i></p>
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p style="margin: 0;"><i>Code: E1</i></p> <p style="margin: 0;"><i>Maximum net quantity per inner packaging: 30 ml</i></p> <p style="margin: 0;"><i>Maximum net quantity per outer packaging: 1000 ml</i></p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p style="margin: 0;">5L</p> <p style="margin: 0;"><i>Code: E1</i></p> <p style="margin: 0;"><i>Maximum net quantity per inner packaging: 30 ml</i></p> <p style="margin: 0;"><i>Maximum net quantity per outer packaging: 1000 ml</i></p>

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: **Lysis Buffer P**

(Contd. of page 7)

· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (GUANIDINIUM THIOCYANATE), 8, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

guanidinium thiocyanate

· **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

· **Precautionary statements**

Do not breathe dusts or mists.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Lysis Buffer P

(Contd. of page 8)

Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@perkinelmer.com

· **Date of preparation / last revision** 11/30/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Corrosion 1C: Skin corrosion/irritation – Category 1C

Eye Damage 1: Serious eye damage/eye irritation – Category 1

· *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

1 Identification

- **Product identifier**
- **Trade name:** Binding Buffer P
- **Article number:** 13808024
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Revvity Inc.
 Wallac Oy
 P.O. Box 10
 FI-20101 Turku
 Finland
 +358 2 2678 111
- **Information department:**
 Product safety department.
 MSDS_Turku@revvity.com
- **Emergency telephone number:**
 CHEMTREC (within U.S.) 800 424-9300
 CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Perchloric acid, sodium salt, monohydrate

- **Hazard statements**

Highly flammable liquid and vapor.

May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 1)

- **Precautionary statements**

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Get medical advice/attention if you feel unwell.
- In case of fire: Use CO₂, powder or water spray to extinguish.
- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

64-17-5	ethanol	25-50%
7791-07-3	Perchloric acid, sodium salt, monohydrate	25-50%
64-19-7	acetic acid	1-2.5%

- **Other ingredients**

7732-18-5	water	15-25%
6131-90-4	sodium acetate trihydrate	2.5-5%
77-86-1	trometamol	<1%
50-70-4	D-glucitol	<1%
7647-01-0	hydrogen chloride	<1%

* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

- Immediately remove any clothing soiled by the product.
- Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 2)

- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

64-17-5	ethanol	1,800 ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	3.8 mg/m ³
6131-90-4	sodium acetate trihydrate	11 mg/m ³
64-19-7	acetic acid	5 ppm
77-86-1	trometamol	18 mg/m ³
7647-01-0	hydrogen chloride	1.8 ppm

- **PAC-2:**

64-17-5	ethanol	3300* ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	41 mg/m ³
6131-90-4	sodium acetate trihydrate	120 mg/m ³
64-19-7	acetic acid	35 ppm
77-86-1	trometamol	190 mg/m ³
7647-01-0	hydrogen chloride	22 ppm

- **PAC-3:**

64-17-5	ethanol	15000* ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	250 mg/m ³

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

		(Contd. of page 3)
6131-90-4	sodium acetate trihydrate	690 mg/m ³
64-19-7	acetic acid	250 ppm
77-86-1	trometamol	1,200 mg/m ³
7647-01-0	hydrogen chloride	100 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

64-17-5 ethanol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1000 ppm
A3	

64-19-7 acetic acid

PEL	Long-term value: 25 mg/m ³ , 10 ppm
REL	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV	Short-term value: 15 ppm Long-term value: 10 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 4)

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Solution
Color:	Colorless
Odor:	Sulphurous
Odor threshold:	Not determined.

- **pH-value at 20 °C (68 °F):** 5-5.9

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78 °C (172.4 °F)

- **Flash point:** 13 °C (55.4 °F)

- **Flammability (solid, gaseous):** Highly flammable.

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower:	3.5 Vol %
Upper:	15 Vol %

- **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)

- **Vapor pressure at 50 °C (122 °F):** 280 hPa (210 mm Hg)

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 5)

· Density at 20 °C (68 °F):	1.05-1.07 g/cm ³ (8.76-8.93 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.

· Solubility in / Miscibility with Water:	Fully miscible.
--------------------------------------------------	-----------------

· Partition coefficient (n-octanol/water):	Not determined.
---------------------------------------------------	-----------------

· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:	
Organic solvents:	46.9 %
Water:	19.7 %
VOC content:	46.94 %

Solids content:	0.0 %
------------------------	-------

· Other information	No further relevant information available.
----------------------------	--------------------------------------------

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

7791-07-3 Perchloric acid, sodium salt, monohydrate

Oral	LD50	>2,000 mg/kg (rat)
------	------	--------------------

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7647-01-0	hydrogen chloride	3
-----------	-------------------	---

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 6)

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.


12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1993
- **UN proper shipping name**
- **DOT** Flammable liquids, n.o.s. (Ethanol)
- **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
- **IMDG** FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
- **IATA** FLAMMABLE LIQUID, N.O.S. (ETHANOL mixture)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 3 Flammable liquids
- **Label** 3

(Contd. on page 8)

-US-

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 7)

· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids
 · **Label** 3

· **Packing group**
 · **DOT, ADR, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Flammable liquids
 · **Hazard identification number (Kemler code):** 33
 · **EMS Number:** F-E,S-E
 · **Stowage Category** B

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
 · **Quantity limitations** On passenger aircraft/rail: 5 L
 On cargo aircraft only: 60 L

· **ADR**
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **IMDG**
 · **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":** UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

7647-01-0	hydrogen chloride
-----------	-------------------

· **Section 313 (Specific toxic chemical listings):**

7647-01-0	hydrogen chloride
-----------	-------------------

· **TSCA (Toxic Substances Control Act):**

64-17-5	ethanol	ACTIVE
7732-18-5	water	ACTIVE
64-19-7	acetic acid	ACTIVE
77-86-1	trometamol	ACTIVE
50-70-4	D-glucitol	ACTIVE
7647-01-0	hydrogen chloride	ACTIVE

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Binding Buffer P**

(Contd. of page 8)

· Hazardous Air Pollutants	
7647-01-0	hydrogen chloride

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

64-17-5 ethanol

A3

7647-01-0 hydrogen chloride

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***Perchloric acid, sodium salt, monohydrate*· **Hazard statements***Highly flammable liquid and vapor.**May cause damage to organs through prolonged or repeated exposure.*· **Precautionary statements***Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Keep container tightly closed.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dust/fume/gas/mist/vapors/spray.**Wear protective gloves/protective clothing/eye protection/face protection.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**Get medical advice/attention if you feel unwell.**In case of fire: Use CO2, powder or water spray to extinguish.**Store in a well-ventilated place. Keep cool.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

US

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Binding Buffer P

(Contd. of page 9)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@perkinelmer.com

· **Date of preparation / last revision** 11/30/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

· *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

1 Identification

- **Product identifier**
- **Trade name:** *Wash Buffer E*
- **Article number:** 13808050
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Revvity Inc.
 Wallac Oy
 P. O. Box 10
 FI-20101 Turku
 Finland
 +358 2 2678 111
- **Information department:**
 Product safety department.
 MSDS_Turku@revvity.com
- **Emergency telephone number:**
 CHEMTREC (within U.S.) 800 424-9300
 CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02

- **Signal word** *Danger*
- **Hazard statements**
Highly flammable liquid and vapor.
- **Precautionary statements**
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use CO2, powder or water spray to extinguish.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 1)

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 0

Fire = 3

Reactivity = 0

· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**· **Description:** Mixture of the substances listed below with nonhazardous additions.· **Dangerous components:**

64-17-5	ethanol	50-75%
---------	---------	--------

· **Other ingredients**

7732-18-5	water	25-50%
-----------	-------	--------

9005-64-5	Polysorbate 20	<0.25%
-----------	----------------	--------

4 First-aid measures

· **Description of first aid measures**· **General information:** Immediately remove any clothing soiled by the product.· **After inhalation:** Supply fresh air; consult doctor in case of complaints.· **After skin contact:** Immediately rinse with water.· **After eye contact:** Rinse opened eye for several minutes under running water.· **After swallowing:** If symptoms persist consult doctor.· **Information for doctor:**· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**· **Suitable extinguishing agents:**CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.· **Special hazards arising from the substance or mixture** No further relevant information available.· **Advice for firefighters**· **Protective equipment:** No special measures required.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 2)

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

Prevent seepage into sewage system, workpits and cellars.

Dilute with plenty of water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

64-17-5	ethanol	1,800 ppm
---------	---------	-----------

- **PAC-2:**

64-17-5	ethanol	3300* ppm
---------	---------	-----------

- **PAC-3:**

64-17-5	ethanol	15000* ppm
---------	---------	------------

7 Handling and storage

- **Handling:**

- **Precautions for safe handling** No special precautions are necessary if used correctly.

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

64-17-5 ethanol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1000 ppm
A3	

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 3)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Solution
Color:	Colorless
Odor:	Sulphurous
Odor threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	78 °C (172.4 °F)

- **Flash point:** 13 °C (55.4 °F)

- **Flammability (solid, gaseous):** Highly flammable.

- **Decomposition temperature:** Not determined.

- **Ignition temperature:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 3.5 Vol %

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 4)

Upper:	15 Vol %
· Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
· Vapor pressure at 50 °C (122 °F):	280 hPa (210 mm Hg)
· Density at 20 °C (68 °F):	0.87-0.89 g/cm ³ (7.26-7.43 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic:	Not determined.
· Solvent content:	
· Organic solvents:	64.9 %
· Water:	35.0 %
· VOC content:	64.92 %
· Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 5)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | UN1170 |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG · IATA | Ethanol solution
1170 ETHANOL (ETHYL ALCOHOL) solution
ETHANOL (ETHYL ALCOHOL) solution
ETHANOL solution |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | |
| <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids
3 |
| <ul style="list-style-type: none"> · ADR, IMDG, IATA | |
| <ul style="list-style-type: none"> · Class · Label | |
| <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids
3 |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | II |

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 6)

· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Hazard identification number (Kemler code):	33
· EMS Number:	F-E,S-D
· Stowage Category	A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1170 ETHANOL (ETHYL ALCOHOL) SOLUTION, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Wash Buffer E

(Contd. of page 7)

· TLV (Threshold Limit Value)	
64-17-5 ethanol	A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02

- **Signal word** Danger

- **Hazard statements**

Highly flammable liquid and vapor.

- **Precautionary statements**

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@perkinelmer.com

· **Date of preparation / last revision** 11/30/2023

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2

- *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

1 Identification

- **Product identifier**
- **Trade name:** *Wash Buffer P*
- **Article number:** 13808041
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Revvity Inc.
 Wallac Oy
 P. O. Box 10
 FI-20101 Turku
 Finland
 +358 2 2678 111
- **Information department:**
 Product safety department.
 MSDS_Turku@revvity.com
- **Emergency telephone number:**
 CHEMTREC (within U.S.) 800 424-9300
 CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure 2 H373 May cause damage to organs through prolonged or repeated exposure.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS08

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

Perchloric acid, sodium salt, monohydrate

- **Hazard statements**

Highly flammable liquid and vapor.

May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: **Wash Buffer P**

(Contd. of page 1)

- **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 Get medical advice/attention if you feel unwell.
 In case of fire: Use CO₂, powder or water spray to extinguish.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

64-17-5	ethanol	25-50%
7791-07-3	Perchloric acid, sodium salt, monohydrate	15-25%
7647-01-0	hydrogen chloride	<0.25%

- **Other ingredients**

7732-18-5	water	50-75%
6131-90-4	sodium acetate trihydrate	1-2.5%
64-19-7	acetic acid	<1%
77-86-1	trometamol	<0.25%
50-70-4	D-glucitol	<0.25%

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 2)

- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

64-17-5	ethanol	1,800 ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	3.8 mg/m ³
6131-90-4	sodium acetate trihydrate	11 mg/m ³
64-19-7	acetic acid	5 ppm
77-86-1	trometamol	18 mg/m ³

- **PAC-2:**

64-17-5	ethanol	3300* ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	41 mg/m ³
6131-90-4	sodium acetate trihydrate	120 mg/m ³
64-19-7	acetic acid	35 ppm
77-86-1	trometamol	190 mg/m ³

- **PAC-3:**

64-17-5	ethanol	15000* ppm
7791-07-3	Perchloric acid, sodium salt, monohydrate	250 mg/m ³
6131-90-4	sodium acetate trihydrate	690 mg/m ³
64-19-7	acetic acid	250 ppm

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

77-86-1 trometamol

(Contd. of page 3)

1,200 mg/m³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

64-17-5 ethanol

PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1000 ppm
	A3

7647-01-0 hydrogen chloride

PEL	Ceiling limit value: 7 mg/m ³ , 5 ppm
REL	Ceiling limit value: 7 mg/m ³ , 5 ppm
TLV	Ceiling limit value: 2 ppm
	A4

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 4)

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Solution
· Color:	Colorless
· Odor:	Sulphurous
· Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 4.6-5.8

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	78 °C (172.4 °F)

· **Flash point:** 13 °C (55.4 °F)

· **Flammability (solid, gaseous):** Highly flammable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· Lower:	3.5 Vol %
· Upper:	15 Vol %

· **Vapor pressure at 20 °C (68 °F):** 59 hPa (44.3 mm Hg)

· **Vapor pressure at 50 °C (122 °F):** 280 hPa (210 mm Hg)

· **Density at 20 °C (68 °F):** 1.04-1.06 g/cm³ (8.68-8.85 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 5)

· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	28.6 %
Water:	51.1 %
VOC content:	28.61 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

7647-01-0	hydrogen chloride	3
-----------	-------------------	---

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P



(Contd. of page 6)

- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1993
- **UN proper shipping name**
- **DOT** Flammable liquids, n.o.s. (Ethanol)
- **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
- **IMDG** FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL))
- **IATA** FLAMMABLE LIQUID, N.O.S. (ETHANOL mixture)
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 3 Flammable liquids
- **Label** 3
- **ADR, IMDG, IATA**
- 
- **Class** 3 Flammable liquids
- **Label** 3
- **Packing group**
- **DOT, ADR, IMDG, IATA** II
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Warning: Flammable liquids
- **Hazard identification number (Kemler code):** 33
- **EMS Number:** F-E,S-E

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 7)

· Stowage Category	B
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	IL
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ETHANOL (ETHYL ALCOHOL)), 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

7732-18-5	water	ACTIVE
64-17-5	ethanol	ACTIVE
64-19-7	acetic acid	ACTIVE
77-86-1	trometamol	ACTIVE
50-70-4	D-glucitol	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 8)

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

64-17-5	ethanol	A3
7647-01-0	hydrogen chloride	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS02 GHS08

· **Signal word** Danger· **Hazard-determining components of labeling:**

Perchloric acid, sodium salt, monohydrate

· **Hazard statements**

Highly flammable liquid and vapor.

May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Get medical advice/attention if you feel unwell.

In case of fire: Use CO₂, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.· **Contact:** MSDS_Turku@perkinelmer.com· **Date of preparation / last revision** 11/30/2023· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Wash Buffer P

(Contd. of page 9)

*VOC: Volatile Organic Compounds (USA, EU)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**Flammable Liquids 2: Flammable liquids – Category 2**Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2***** Data compared to the previous version altered.***

US

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

1 Identification

- **Product identifier**
- **Trade name:** Wash Buffer H
- **Article number:** 13808055
- **CAS Number:**
7732-18-5
- **EC number:**
231-791-2
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
The substance is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements**
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 1)

· **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization:** Substances
- **CAS No. Description**
7732-18-5 water
- **Identification number(s)**
- **EC number:** 231-791-2

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

Substance is not listed.

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 2)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Fluid
- **Color:** Colorless
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
- **Melting point/Melting range:** 0 °C (32 °F)
- **Boiling point/Boiling range:** 100 °C (212 °F)
- **Flash point:** Not applicable.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 3)

· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F):	1 g/cm ³ (8.35 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	0.952 mPas
Kinematic:	Not determined.
Water:	100.0 %
VOC content:	0.00 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
The substance is not subject to classification.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 4)

· NTP (National Toxicology Program)
Substance is not listed.
· OSHA-Ca (Occupational Safety & Health Administration)
Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|----------------------------------------------------------------------------------|-----------------|
| · UN-Number | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 5)

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

ACTIVE

· **Hazardous Air Pollutants**

Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@perkinelmer.com

· **Date of preparation / last revision** 11/30/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Wash Buffer H

(Contd. of page 6)

PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

· *** Data compared to the previous version altered.**

US

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

1 Identification

- **Product identifier**
- **Trade name:** Elution Buffer
- **Article number:** 13808062
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Revvity Inc.
 Wallac Oy
 P.O. Box 10
 FI-20101 Turku
 Finland
 +358 2 2678 111
- **Information department:**
 Product safety department.
 MSDS_Turku@revvity.com
- **Emergency telephone number:**
 CHEMTREC (within U.S.) 800 424-9300
 CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
 The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**
- | | | |
|------------|---|----------------|
| HEALTH | 0 | Health = 0 |
| FIRE | 0 | Fire = 0 |
| REACTIVITY | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: *Elution Buffer*

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Void

- **Other ingredients**

7732-18-5	water	95-100%
77-86-1	trometamol	<0.1%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

77-86-1	trometamol	18 mg/m ³
---------	------------	----------------------

- **PAC-2:**

77-86-1	trometamol	190 mg/m ³
---------	------------	-----------------------

- **PAC-3:**

77-86-1	trometamol	1,200 mg/m ³
---------	------------	-------------------------

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: *Elution Buffer*

(Contd. of page 2)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** *No special measures required.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *None.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see section 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** *Not required.*
- **Protection of hands:**
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** *Goggles recommended during refilling.*

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** *Fluid*
- **Color:** *Colorless*
- **Odor:** *Sulphurous*
- **Odor threshold:** *Not determined.*
- **pH-value at 20 °C (68 °F):** *7.8-8.4*
- **Change in condition**
- **Melting point/Melting range:** *0 °C (32 °F)*

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: *Elution Buffer*

(Contd. of page 3)

Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F):	1 g/cm ³ (8.35 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic at 20 °C (68 °F):	0.952 mPas
Kinematic:	Not determined.
· Solvent content:	
Water:	99.9 %
VOC content:	0.00 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Elution Buffer**

(Contd. of page 4)

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADR, ADN, IMDG, IATA · Class | Void |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: *Elution Buffer*

(Contd. of page 5)

· UN "Model Regulation": *Void*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture***No further relevant information available.*· **Sara**· **Section 355 (extremely hazardous substances):***None of the ingredients is listed.*· **Section 313 (Specific toxic chemical listings):***None of the ingredients is listed.*· **TSCA (Toxic Substances Control Act):***All components have the value ACTIVE.*· **Hazardous Air Pollutants***None of the ingredients is listed.*· **Proposition 65**· **Chemicals known to cause cancer:***None of the ingredients is listed.*· **Chemicals known to cause reproductive toxicity for females:***None of the ingredients is listed.*· **Chemicals known to cause reproductive toxicity for males:***None of the ingredients is listed.*· **Chemicals known to cause developmental toxicity:***None of the ingredients is listed.*· **Carcinogenic categories**· **EPA (Environmental Protection Agency)***None of the ingredients is listed.*· **TLV (Threshold Limit Value)***None of the ingredients is listed.*· **NIOSH-Ca (National Institute for Occupational Safety and Health)***None of the ingredients is listed.*· **GHS label elements** *Void*· **Hazard pictograms** *Void*· **Signal word** *Void*· **Hazard statements** *Void*· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** *Product safety department.*· **Contact:** *MSDS_Turku@perkinelmer.com*· **Date of preparation / last revision** *11/30/2023*· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Elution Buffer

(Contd. of page 6)

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

US

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

1 Identification

- **Product identifier**
- **Trade name:** Proteinase K
- **Article number:** 13808071
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Revvity Inc.
 Wallac Oy
 P.O. Box 10
 FI-20101 Turku
 Finland
 +358 2 2678 111
- **Information department:**
 Product safety department.
 MSDS_Turku@revvity.com
- **Emergency telephone number:**
 CHEMTREC (within U.S.) 800 424-9300
 CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Sensitization - Respiratory 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Eye Irritation 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**
 The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
 Proteinase, Tritirachium album serine

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 1)

- **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause respiratory irritation.

- **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear eye protection / face protection.

[In case of inadequate ventilation] wear respiratory protection.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 0

Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

39450-01-6	Proteinase, Tritirachium album serine	≥50-≤90%
------------	---------------------------------------	----------

4 First-aid measures

- **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 2)

- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.*
- **Special hazards arising from the substance or mixture** *No further relevant information available.*
- **Advice for firefighters**
- **Protective equipment:** *No special measures required.*

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** *Not required.*
- **Environmental precautions:** *No special measures required.*
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to section 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:

<i>None of the ingredients is listed.</i>

· PAC-2:

<i>None of the ingredients is listed.</i>

· PAC-3:

<i>None of the ingredients is listed.</i>

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep receptacle tightly sealed.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see section 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 3)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Powder

Color: White

· **Odor:** Sulphurous

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 4)

· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapor pressure:	<i>Not applicable.</i>
· Density:	<i>Not determined.</i>
· Relative density	<i>Not determined.</i>
· Vapor density	<i>Not applicable.</i>
· Evaporation rate	<i>Not applicable.</i>
· Solubility in / Miscibility with Water:	<i>Insoluble.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not applicable.</i>
Kinematic:	<i>Not applicable.</i>
· Solvent content:	
VOC content:	<i>0.00 %</i>
Solids content:	<i>100.0 %</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *Irritant to skin and mucous membranes.*
- **on the eye:** *Irritating effect.*
- **Sensitization:** *Sensitization possible through inhalation.*
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.
- **NTP (National Toxicology Program)**
None of the ingredients is listed.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 5)

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Hand over to hazardous waste disposers.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|-----------------------------------------------------------------------------------|-----------------|
| · UN-Number | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · DOT, ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · DOT, ADR, IMDG, IATA | Void |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

(Contd. on page 7)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: **Proteinase K**

(Contd. of page 6)

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

None of the ingredients is listed.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:***Proteinase, Tritirachium album serine*· **Hazard statements***Causes skin irritation.**Causes serious eye irritation.**May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause respiratory irritation.*· **Precautionary statements***Avoid breathing dust/fume/gas/mist/vapors/spray**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear eye protection / face protection.**[In case of inadequate ventilation] wear respiratory protection.**If on skin: Wash with plenty of water.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/02/2023

Trade name: Proteinase K

(Contd. of page 7)

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Call a poison center/doctor if you feel unwell.
Specific treatment (see on this label).
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
 • **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

• **Department issuing SDS:** Product safety department.

• **Contact:** MSDS_Turku@perkinelmer.com

• **Date of preparation / last revision** 11/30/2023

• **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Sensitization - Respiratory 1: Respiratory sensitisation – Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

• *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

1 Identification

- **Product identifier**
- **Trade name:** Poly(A)RNA Buffer
- **Article number:** 13808048
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corrosion 1C

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Acute Toxicity - Dermal 4

H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4

H332 Harmful if inhaled.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

GHS07

- **Signal word** *Danger*

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 1)

- **Hazard-determining components of labeling:**

guanidinium thiocyanate

- **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

- **Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



HEALTH 1 Health = 1

FIRE 0 Fire = 0

REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

* 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

593-84-0	guanidinium thiocyanate	25-50%
----------	-------------------------	--------

- **Other ingredients**

7732-18-5	water	50-75%
-----------	-------	--------

* 4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 2)

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately rinse with water.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Immediately call a doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

- **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:** Dilute with plenty of water.

- **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

593-84-0	guanidinium thiocyanate	0.98 mg/m ³
----------	-------------------------	------------------------

- **PAC-2:**

593-84-0	guanidinium thiocyanate	11 mg/m ³
----------	-------------------------	----------------------

- **PAC-3:**

593-84-0	guanidinium thiocyanate	65 mg/m ³
----------	-------------------------	----------------------

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

- **Information about protection against explosions and fires:** Keep respiratory protective device available.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

US

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 4)

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· Form:	Fluid
· Color:	Yellow tint
· Odor:	Sulphurous
· Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 4

· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C (212 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.15 g/cm³ (9.6 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Water:	66.7 %
· VOC content:	0.00 %

· **Solids content:** 0.0 %

· **Other information** No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** No dangerous decomposition products known.

US
(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 5)

11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Hand over to hazardous waste disposers.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS



Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 6)

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p style="margin: 0;">UN1760</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	<p style="margin: 0;">Corrosive liquids, n.o.s. (guanidinium thiocyanate) 1760 CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate) CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  <p style="margin: 0;">CORROSIVE 8</p> </div> <p style="margin: 0;">8 Corrosive substances</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="margin: 0;">8 8</p>
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	<div style="text-align: center;">  <p style="margin: 0;">CORROSIVE 8</p> </div> <p style="margin: 0;">8 Corrosive substances</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="margin: 0;">8 8</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p style="margin: 0;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p style="margin: 0;">No</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code 	<p style="margin: 0;">Warning: Corrosive substances 80 F-A,S-B B SW2 Clear of living quarters.</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code 	<p style="margin: 0;">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations 	<p style="margin: 0;">On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L</p>
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p style="margin: 0;">Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p style="margin: 0;">5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 7)

· **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (GUANIDINIUM THIOCYANATE), 8, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

guanidinium thiocyanate

· **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes severe skin burns and eye damage.

· **Precautionary statements**

Do not breathe dusts or mists.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/01/2023

Trade name: Poly(A)RNA Buffer

(Contd. of page 8)

Wash thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 If swallowed: Rinse mouth. Do NOT induce vomiting.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 Take off contaminated clothing and wash it before reuse.
 Wash contaminated clothing before reuse.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.

· **Contact:** MSDS_Turku@perkinelmer.com

· **Date of preparation / last revision** 11/30/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Corrosion 1C: Skin corrosion/irritation – Category 1C

Eye Damage 1: Serious eye damage/eye irritation – Category 1

· *** Data compared to the previous version altered.**

Safety Data Sheet acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

1 Identification

- **Product identifier**
- **Trade name:** Magnetic beads
- **Article number:** 13809185
- **Application of the substance / the mixture**
In vitro diagnostics
Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Revvity Inc.
Wallac Oy
P.O. Box 10
FI-20101 Turku
Finland
+358 2 2678 111
- **Information department:**
Product safety department.
MSDS_Turku@revvity.com
- **Emergency telephone number:**
CHEMTREC (within U.S.) 800 424-9300
CHEMTREC (from outside U.S.) +1-703-572-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified, according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements**
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

US

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: *Magnetic beads*

(Contd. of page 1)

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** Void

- **Other ingredients**

7732-18-5	water	75-85%
	Magnetic beads	15-25%

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

None of the ingredients is listed.

- **PAC-2:**

None of the ingredients is listed.

- **PAC-3:**

None of the ingredients is listed.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: *Magnetic beads*

(Contd. of page 2)

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** *No special measures required.*
- **Information about protection against explosions and fires:** *No special measures required.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *None.*
- **Specific end use(s)** *No further relevant information available.*

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** *No further data; see section 7.*
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** *Not required.*
- **Protection of hands:**
*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** *Goggles recommended during refilling.*

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** *Fluid*
- **Color:** *According to product specification*
- **Odor:** *Characteristic*
- **Odor threshold:** *Not determined.*
- **pH-value:** *Not determined.*
- **Change in condition**
- **Melting point/Melting range:** *Undetermined.*

(Contd. on page 4)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: *Magnetic beads*

(Contd. of page 3)

Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Water:	80.0 %
VOC content:	0.00 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**
 - **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** No irritating effect.
 - **Sensitization:** No sensitizing effects known.
 - **Additional toxicological information:**
- The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: *Magnetic beads*

(Contd. of page 4)

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:** Water hazard class 1 (Self-assessment): slightly hazardous for water

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Smaller quantities can be disposed of with household waste.

- **Uncleaned packagings:**

- **Recommendation:** Hand over to hazardous waste disposers.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

- **DOT, ADR, ADN, IMDG, IATA** Void

- **UN proper shipping name**

- **DOT, ADR, ADN, IMDG, IATA** Void

- **Transport hazard class(es)**

- **DOT, ADR, ADN, IMDG, IATA**

- **Class** Void

- **Packing group**

- **DOT, ADR, IMDG, IATA** Void

- **Environmental hazards:**

- **Marine pollutant:** No

- **Special precautions for user** Not applicable.

- **Transport in bulk according to Annex II of**

- **MARPOL 73/78 and the IBC Code** Not applicable.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: **Magnetic beads**

(Contd. of page 5)

· UN "Model Regulation": Void

15 Regulatory information

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

No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

7732-18-5 | water

ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** Void· **Hazard pictograms** Void· **Signal word** Void· **Hazard statements** Void· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.· **Contact:** MSDS_Turku@perkinelmer.com· **Date of preparation / last revision** 11/30/2023· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/30/2023

Reviewed on 11/30/2023

Trade name: Magnetic beads

(Contd. of page 6)

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

· * **Data compared to the previous version altered.**

US