

08/15/2023	Kit Components	
Product code	Description	
D4015, D4016, D4054	ZR Plasmid Miniprep - Classic	
Components:		
D4027-1-10	Buffer P1	
D4027-2-10	Buffer P2	
D4027-3-12	Buffer P3	
D4036-3-6	Endo-Wash Buffer	
D4027-4-6	Plasmid Wash Buffer	
D3004-4-1	DNA Elution Buffer	



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Identification	
Product identifier	
Trade name: Buffer P1	
Article number: D4027-1-10, D4027-1-2 Application of the substance / the mixture	20, D4027-1-80, D4027-1-160, D4027-1-320, D4027-1-500 <i>re</i> Laboratory Reagent
Details of the supplier of the safety data Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U sds@zymoresearch.com	<i>sheet</i> J.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
<i>Information department:</i> Product Safety <i>Emergency telephone number:</i> During normal business hours (8 am to 5 product stress of the stress of	Dept. pm Pacific Standard Time): +1 (949) 679 1190
Hazard(s) identification	
<i>Classification of the substance or mixtur</i> The product is not classified, according to	re o 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) Health = 0	
$\begin{array}{c} \bullet \\ \bullet $	
HMIS-ratings (scale 0 - 4)HEALTH0FIRE0FIRE0REACTIVITY0	

• Chemical characterization: Mixtures

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

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· Dangerous components: Void

#### 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:

Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

- · After swallowing: Do not induce vomiting; immediately call for medical help.
- 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. Use fire fighting measures that suit the environment.

- · Advice for firefighters
- · Protective equipment: Wear protective clothing.

#### 6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Wear protective clothing.

- 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

• <i>PAC-1:</i>		
CAS: 1185-53-1	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	12 mg/m <sup>3</sup>
CAS: 6381-92-6	Edetate Disodium, Dihydrate	30 mg/m <sup>3</sup>
· PAC-2:		
CAS: 1185-53-1	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	130 mg/m <sup>3</sup>
CAS: 6381-92-6	Edetate Disodium, Dihydrate	330 mg/m <sup>3</sup>
· PAC-3:		
CAS: 1185-53-1	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	790 mg/m <sup>3</sup>
CAS: 6381-92-6	Edetate Disodium, Dihydrate	2,000 mg/m <sup>3</sup>

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#### 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) Laboratory reagent

#### 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.

Information on basic physic General Information	cal and chemical properties	
Appearance:		
Form:	Liquid	
Color:	Light red	
Odor:	Odorless	
Odor threshold:	Not determined.	

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· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	Undetermined.	
· 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 Applicable	
Upper:	Not Applicable	
· Vapor pressure:	Not determined.	
· 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/wa	ter): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
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.

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## 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.
- $\cdot$  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.

· 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:
- Dispose of container in acoordance with local/regional/national and international recommendations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

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UN-Number DOT, ADN, IMDG, IATA	not regulated	
UN proper shipping name DOT, ADN, IMDG, IATA	not regulated	
Transport hazard class(es)		
DOT, ADN, IMDG, IATA Class	not regulated	
Packing group DOT, IMDG, IATA	not regulated	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex I MARPOL73/78 and the IBC Code	<i>II of</i> Not applicable.	
UN "Model Regulation":	not regulated	

## 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):

CAS: 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride

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.

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• 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: Zymo Research Corp. Safety Department 17062 Murphy Ave. Irvine, CA 92614 USA Phone: 1-949-679-1190 or 1-888-882-9682 · Contact: sds@zymoresearch.com · Date of preparation / last revision 08/15/2023 · 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



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$I \ Identification \\ Product identifier \\ Product identifier \\ Product identifier \\ Product identifier P2 \\ Article number: D4027-2-10, D4027-2-20, D4027-2-80, D4027-2-160, D4027-2-250, D4027-2-320 \\ Application of the substance / the mixture Laboratory Reagent \\ Details of the supplice of the safety data sheet \\ Manufactures/Supplier: Zymo Research Corp. \\ Product Stafety Dept. \\ Prod$	<ul> <li>Product identifier</li> <li>Product identifier</li> <li>Product identifier</li> <li>Product identifier</li> <li>Product identifier</li> <li>Product identifier</li> <li>Application of the substance / the mixture Laboratory Reagent</li> <li>Details of the substance / the mixture Laboratory Reagent</li> <li>Details of the substance / the mixture Laboratory Reagent</li> <li>Details of the substance / the mixture Laboratory Reagent</li> <li>Details of the substance / the mixture Laboratory Reagent</li> <li>Details of the substance / the mixture Laboratory Reagent</li> <li>Domorgan Scatch Corp.</li> <li>Typo Research Corp.</li> <li>Typo Research Corp.</li> <li>Typo Research Corp.</li> <li>Typo Research Corp.</li> <li>Information department: Product Safety Dept.</li> <li>Emergency telephone number:</li> <li>During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190</li> </ul> <b>Classification of the substance or mixture Output</b> Of the substance or mixture <b>Output</b> Of the product is classified and labeled according to the Globally Harmonized System (GHS). <b>Harard statements Classifications Classifications Precuritionary statements Classes Classes</b> Skin Irritation. <b>Precuritationa Precuritationa Precuritationa Precuritationa Precuritationa Precuritationa Precuritationa Precuritationa Precuritationa Precuritation</b>	inting dule 00/15/2025	Reviewed on 05/15/202
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$\mathbf{V}  \text{Reactivity} = 0$		Fire $= 0$	
	(Contd. on page	$\mathbf{V}$ Reactivity = 0	

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## Trade name: Buffer P2

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≤2.5%

· HMIS-ratings (scale 0 - 4)



• 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:

CAS: 1310-73-2 sodium hydroxide

#### 4 First-aid measures

- · Description of first aid measures
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- 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. Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

- *After swallowing:* Do not induce vomiting; immediately call for medical help.
- · 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. Use fire fighting measures that suit the environment.

- Advice for firefighters
- · Protective equipment: Wear protective clothing.

#### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · 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). Ensure adequate ventilation.

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· 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* 

DAC 1.

• PAC-1:

All components have the value  $0.5 \text{ mg/m}^3$ .

• PAC-2:

All components have the value  $5 \text{ mg/m}^3$ .

• PAC-3:

All components have the value 50 mg/m<sup>3</sup>.

#### 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: 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) Laboratory reagent

## 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:

#### CAS: 1310-73-2 sodium hydroxide

- PEL Long-term value: 2 mg/m<sup>3</sup>
- REL Ceiling limit value: 2 mg/m<sup>3</sup>
- TLV Ceiling limit value: 2 mg/m<sup>3</sup>

• 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.

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## Safety Data Sheet acc. to OSHA HCS

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#### Trade name: Buffer P2

· 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  $\cdot$  *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.



Tightly sealed goggles

Information on basic physical and	chemical properties	
General Information		
Appearance:		
Form:	Liquid	
Color:	Light green	
Odor:	Nearly odorless	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	Undetermined.	
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 Applicable	
Upper:	Not Applicable	
Vapor pressure:	Not determined.	
Density:	Not determined.	
Relative density	Not determined.	

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#### Trade name: Buffer P2

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Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octan	ol/water): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
VOC content:	0.00 %	
	0.0 g/l / 0.00 lb/gal	
Solids content:	1.0 %	
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: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

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

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#### 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:

Dispose of contents in accordance with local/regional/national, and international recommendations.

- · Uncleaned packagings:
- · Recommendation:

Dispose of container in accordance with local/regional/national and international recommendations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

Transport information		
· UN-Number · DOT, ADN, IMDG, IATA	Not regulated not regulated	
UN proper shipping name DOT, ADN, IMDG, IATA	Not regulated not regulated	
Transport hazard class(es)	Not regulated	
DOT, ADN, IMDG, IATA Class	not regulated	
Packing group DOT, IMDG, IATA	Not regulated not regulated	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	<i>II of</i> Not applicable.	
· UN "Model Regulation":	not regulated	

## 15 Regulatory information

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

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·Sara	(Contd. of page 6
Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	
· Section 313 (Specific toxic chemical listings):	
None of the ingredients is listed.	
-	
• <i>TSCA (Toxic Substances Control Act):</i> 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.	
None of the highedicits 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 Ha	rmonized System (GHS).
· Hazard pictograms GHS07	5 ( )
· Signal word Warning	
Hazard statements	
Causes skin irritation.	
Causes serious eye irritation.	
· Precautionary statements	
Wash thoroughly after handling. Wear eye protection / face protection.	
If on skin: Wash with plenty of water.	
Specific treatment (see on this label).	
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if pr	esent and easy to do
Continue rinsing.	com and casy to uo.
If skin irritation occurs: Get medical advice/attention.	
Take off contaminated clothing and wash it before reuse.	
If eye irritation persists: Get medical advice/attention.	
• <i>Chemical safety assessment:</i> 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.

Printing date 08/15/2023

Reviewed on 03/15/2021

## Trade name: Buffer P2

(Contd. of page 7)	)
· Department issuing SDS:	
Zymo Research Corp.	
Safety Department	
17062 Murphy Ave.	
Irvine, CA 92614	
USA	
Phone: 1-949-679-1190 or 1-888-882-9682	
· Contact: sds@zymoresearch.com	
· Date of preparation / last revision 08/15/2023	
· 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	
- U <sup>(</sup>	JS –



Printing date 08/15/2023

Reviewed on 03/15/2021

Identification	
rachujicanon	
Product identifier	
Trade name: Buffer	P3
	27-3-12, D4027-3-50, D4027-3-220, D4027-3-440 <i>ibstance / the mixture</i> Laboratory Reagent
<i>Manufacturer/Suppl</i> Zymo Research Corp	Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
	nent: Product Safety Dept.
<i>Emergency telephon</i> During normal busin	<i>e number:</i> ess hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190
<b>TT 1</b> () • <b>1</b> /•/	ne , e
Hazard(s) identif	ication
Classification of the	substance on mixture
	substance or mixture
Acute Toxicity - Ora	4 H302 Harmful if swallowed.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Label elements	The product is classified and labeled according to the Clabelly Hermonized Sectors (CHS)
GHS label elements Hazard pictograms ( Signal word Warning	
Hazard pictograms ( Signal word Warning	GHS07 3
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride	GHS07 g components of labeling:
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements	GHS07 g components of labeling:
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride	GHS07 g components of labeling: 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir	GHS07 g components of labeling: d. ritation.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary statem	GHS07 g components of labeling: 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary statem Wash thoroughly afte	GHS07 <i>components of labeling:</i> 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary staten Wash thoroughly afte Do not eat, drink or s	GHS07 <i>components of labeling:</i> 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary statem Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a	GHS07 <i>components of labeling:</i> 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary statem Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a p Rinse mouth.	GHS07 g components of labeling: 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary statem Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a j Rinse mouth. If on skin: Wash with	GHS07 <i>components of labeling:</i> 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary staten Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a j Rinse mouth. If on skin: Wash with Specific treatment (see	GHS07 <i>components of labeling:</i> 1.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary staten Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a Rinse mouth. If on skin: Wash with Specific treatment (se If in eyes: Rinse caut Continue rinsing.	GHS07 <i>components of labeling:</i>
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary staten Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a Rinse mouth. If on skin: Wash with Specific treatment (se If in eyes: Rinse caut Continue rinsing. If skin irritation occu	GHS07 g components of labeling: i. ritation. ments pr handling. moke when using this product. / face protection. poison center/doctor if you feel unwell. a plenty of water. te on this label). iously with water for several minutes. Remove contact lenses, if present and easy to do. rs: Get medical advice/attention.
Hazard pictograms ( Signal word Warning Hazard-determining guanidinium chloride Hazard statements Harmful if swallowed Causes skin irritation Causes serious eye ir Precautionary staten Wash thoroughly afte Do not eat, drink or s Wear eye protection If swallowed: Call a j Rinse mouth. If on skin: Wash with Specific treatment (se If in eyes: Rinse caut Continue rinsing. If skin irritation occu	GHS07 <i>components of labeling:</i>

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Reviewed on 03/15/2021

#### Trade name: Buffer P3

If eye irritation persists: Get medical advice/attention. Dispose of contents/container in accordance with local/regional/national/international regulations. • <i>Classification system:</i> • <i>NFPA ratings (scale 0 - 4)</i>	(Contd. of page 1)
$\begin{array}{c} 2 \\ 2 \\ 0 \\ 0 \end{array}  \begin{array}{l} \text{Health} = 2 \\ \text{Fire} = 0 \\ \text{Reactivity} = 0 \end{array}$	
· HMIS-ratings (scale 0 - 4)	
HEALTH2FIRE0Fire = 0REACTIVITYReactivity = 0	
<ul> <li>Other hazards</li> <li>Results of PBT and vPvB assessment</li> <li>PBT: Not applicable.</li> <li>vPvB: Not applicable.</li> </ul>	
3 Composition/information on ingredients	
• <i>Chemical characterization: Mixtures</i> • <i>Description:</i> Mixture of the substances listed below with nonhazardous additions.	
· Dangerous components:	
CAS: 50-01-1 guanidinium chloride	≤25%

CAS: 50-01-1	guanidinium chloride
	Trade Secret 001-4036

## 4 First-aid measures

- · Description of first aid measures
- General information:
- 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.
- 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.
- Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

#### • After swallowing:

- Do not induce vomiting; immediately call for medical help.
- Immediately call a doctor.
- Drink copious amounts of water and provide fresh air. 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.

(Contd. on page 3)

≤5%

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Trade name: Buffer P3

(Contd. of page 2)

#### 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. Use fire fighting measures that suit the environment.
- Advice for firefighters
- · Protective equipment: Wear protective clothing.

#### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground 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:

CAS: 50-01-1 guanidinium chloride

#### · PAC-2:

CAS: 50-01-1 guanidinium chloride

· PAC-3:

CAS: 50-01-1 guanidinium chloride

## 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: 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) Laboratory reagent

#### 8 Exposure controls/personal protection

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

(Contd. on page 4)

1.4 mg/m<sup>3</sup>

 $16 \text{ mg/m}^3$ 

94 mg/m<sup>3</sup>

US -

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#### Trade name: Buffer P3

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(Contd. of page 3)

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- · 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 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  $\cdot$  *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

Information on basic physical and General Information	chemical properties	
Appearance: Form:	Liquid	
rorm: Color:	Liquid Yellow	
Odor:	Nearly odorless	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	

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Trade name:	<b>Buffer</b>	<b>P3</b>
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	(Contd. e	of page
Boiling point/Boiling range:	Undetermined.	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Not applicable.	
Auto igniting:	485 °C (905 °F)	
Decomposition temperature:	Not determined.	
Ignition temperature:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not Applicable	
Upper:	Not Applicable	
Vapor pressure:	Not determined.	
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/wa	nter): Not determined.	
Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
Solvent content:		
Organic solvents:	5.0 %	
VOC content:	5.00 %	
	50.0 g/l / 0.42 lb/gal	
Solids content:	25.0 %	
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)

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Reviewed on 03/15/2021

#### Trade name: Buffer P3

(Contd. of page 5)

## 11 Toxicological information

- · Information on toxicological effects
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

#### CAS: 50-01-1 guanidinium chloride

Oral LD50 475 mg/kg (rat)

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · 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 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 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:

Dispose of contents in accordance with local/regional/national, and international recommendations.

(Contd. on page 7)

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Trade name: Buffer P3

(Contd. of page 6)

· Uncleaned packagings:

· Recommendation:

Dispose of container in acoordance with local/regional/national and international recommendations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

## 14 Transport information

· UN-Number · DOT, ADN, IMDG, IATA	not regulated	
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated	
· Transport hazard class(es)		
· DOT, ADN, IMDG, IATA · Class	not regulated	
· Packing group · DOT, IMDG, IATA	not regulated	
· Environmental hazards:	Not applicable.	
· 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":	not regulated	

## 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): CAS: 50-01-1 guanidinium chloride ACTIVE Trade Secret 001-4036 \* Trade Secret 002-4036 \* · 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. (Contd. on page 8) US

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Reviewed on 03/15/2021

#### Trade name: Buffer P3

(Contd. of page 7) · 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 · Signal word Warning · Hazard-determining components of labeling: guanidinium chloride · Hazard statements Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. · Precautionary statements Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection / face protection. If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If on skin: Wash with plenty of water. Specific treatment (see on this label). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. If eye irritation persists: Get medical advice/attention. 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: Zymo Research Corp. Safety Department 17062 Murphy Ave. Irvine, CA 92614 USA Phone: 1-949-679-1190 or 1-888-882-9682
Contact: sds@zymoresearch.com
Date of preparation / last revision 08/15/2023

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<sup>-</sup> US

Printing date 08/15/2023

Reviewed on 03/15/2021

#### Trade name: Buffer P3

(Contd. of page 8) · 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) 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 Acute Toxicity - Oral 4: Acute toxicity - Category 4 Skin Irritation 2: Skin corrosion/irritation - Category 2 Eye Irritation 2A: Serious eye damage/eye irritation - Category 2A US



Printing date 08/15/2023

Reviewed on 03/15/2021

rinting date 08/15/2023	Reviewed on 03/15/2021
1 Identification	
· Product identifier	
· Trade name: Endo-Wash Buffer	
	-15, D4036-3-30, D4036-3-60, D4036-3-120, D4036-3-160, D4036-3-240 <i>xture</i> Laboratory Reagent
<ul> <li>Details of the supplier of the safety day</li> <li>Manufacturer/Supplier: Zymo Research Corp.</li> <li>17062 Murphy Ave., Irvine, CA 92614 sds@zymoresearch.com</li> </ul>	<i>ata sheet</i> 4, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
• <i>Information department:</i> Product Safe • <i>Emergency telephone number:</i> During normal business hours (8 am to	èty Dept. 9 5 pm Pacific Standard Time): +1 (949) 679 1190
2 Hazard(s) identification	
· Classification of the substance or mix	cture
GHS02 Flame	
Flammable Liquids 2	H225 Highly flammable liquid and vapor.
Acute Toxicity - Oral 4	H302 Harmful if swallowed.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Specific Target Organ Toxicity - Singl	le Exposure 3 H336 May cause drowsiness or dizziness.
<ul> <li>Label elements</li> <li>GHS label elements The product is classified to the second second</li></ul>	assified and labeled according to the Globally Harmonized System (GHS).
<ul> <li>Hazard-determining components of la guanidinium chloride propan-2-ol</li> <li>Hazard statements         Highly flammable liquid and vapor.         Harmful if swallowed.         Causes skin irritation.         Causes serious eye irritation.         May cause drowsiness or dizziness.         Precautionary statements         Keep away from heat/sparks/open flam     </li> </ul>	nes/hot surfaces No smoking.
Ground/bond container and receiving	
	(Contd. on page 2)

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Printing date 08/15/2023

CAS: 67-63-0 propan-2-ol

Reviewed on 03/15/2021

## Trade name: Endo-Wash Buffer

(Cor	ntd. of page 1)
Use explosion-proof electrical/ventilating/lighting/equipment.	
Use only non-sparking tools.	
Take precautionary measures against static discharge.	
Avoid breathing dust/fume/gas/mist/vapors/spray	
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.	
Rinse mouth.	
Specific treatment (see on this label).	
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.	1
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to	do.
Continue rinsing.	
If skin irritation occurs: Get medical advice/attention.	
Take off contaminated clothing and wash it before reuse.	
If eye irritation persists: Get medical advice/attention.	
In case of fire: Use CO2, powder or water spray to extinguish.	
Store in a well-ventilated place. Keep container tightly closed.	
Store in a well-ventilated place. Keep cool.	
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 = $3$	
2 Reactivity = 0	
• HMIS-ratings (scale 0 - 4)	
HEALTH 2 Health = $2$	
FIRE 3 Fire = 3	
<b>REACTIVITY</b> Reactivity = 0	
Other has and	
• Other hazards	
• Results of PBT and vPvB assessment	
<b><i>PBT</i></b> : Not applicable.	
· <i>vPvB</i> : Not applicable.	
2 Commencial and for formula in an income limite	
3 Composition/information on ingredients	
· Chemical characterization: Mixtures	
• <i>Description:</i> Mixture of the substances listed below with nonhazardous additions.	
1	
Dangerous components:	
CAS: 50-01-1 guanidinium chloride	≤50%

(Contd. on page 3)

≤50%

US

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Reviewed on 03/15/2021

#### Trade name: Endo-Wash Buffer

(Contd. of page 2)

	<b>T</b> .	• 1	
Λ	H 11/01		measures

• Description of first aid measures

• General information:

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.
- · 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. Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

• After swallowing:

Do not induce vomiting; immediately call for medical help.

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. 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:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Advice for firefighters
- · Protective equipment: Wear protective clothing.

#### 6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures	
Wear protective equipment. Keep unprotected persons away.	
• Environmental precautions:	
Dilute with plenty of water.	
Do not allow to enter sewers/ surface or ground 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:	
CAS: 50-01-1 guanidinium chloride	1.4 mg/m <sup>3</sup>
CAS: 67-63-0 propan-2-ol	400 ppm
	Contd. on page 4)
	US -

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Trade name: Endo-Wash Buffer

		(Contd. of page 3)
• PAC-2:		
CAS: 50-01-1 guanidinium	n chloride	16 mg/m <sup>3</sup>
CAS: 67-63-0 propan-2-ol		2000* ppm
• PAC-3:		
CAS: 50-01-1 guanidinium	1 chloride	94 mg/m <sup>3</sup>
CAS: 67-63-0 propan-2-ol		12000** 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.
- · 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.
- Store in cool, dry conditions in well sealed receptacles
- Specific end use(s) Laboratory reagent

## 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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

CAS: 67-63-0 propan-2-ol	
PEL Long-term value: 980 mg/m <sup>3</sup> , 400 ppm	
REL Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm	
TLV Short-term value: 400 ppm Long-term value: 200 ppm BEI, A4	
· Ingredients with biological limit values:	
CAS: 67-63-0 propan-2-ol	
BEI 40 mg/L	
Medium: urine	
Time: end of shift at end of workweek	
Parameter: Acetone (background, nonspecific)	
• Additional information: The lists that were valid during the creation were used as basis.	
	(Contd. on page 5)

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(Contd. of page 4)

- · 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

Information on basic physical and General Information Appearance:	chemical properties	
Form:	Liquid	
Color:	Clear	
Odor:	Alcohol-like	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	82 °C (179.6 °F)	
Flash point:	13 °C (55.4 °F)	
Flammability (solid, gaseous):	Highly flammable.	
Auto igniting:	425 °C (797 °F)	

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Trade name: Endo-Wash Buffer

	(Contd. of page
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:	2 Vol %
Upper:	12 Vol %
· Vapor pressure at 20 °C (68 °F):	43 hPa (32.3 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/wate	er): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	50.0 %
VOC content:	50.00 %
	500.0 g/l / 4.17 lb/gal
Solids content:	40.0 %
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:

CAS: 50-01-1 guanidinium chloride

Oral LD50 475 mg/kg (rat)

#### • Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

(Contd. on page 7)

<sup>—</sup> US

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#### Trade name: Endo-Wash Buffer

(Contd. of page 6)

3

• on the eye: Irritating effect.

• 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)

CAS: 67-63-0 propan-2-ol

·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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 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:

Dispose of contents in accordance with local/regional/national, and international recommendations.

- · Uncleaned packagings:
- · Recommendation:
- Dispose of container in acoordance with local/regional/national and international recommendations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

· UN-Number		
· DOT, IMDG, IATA	UN1219	
· UN proper shipping name		
DOT	Isopropanol mixture	

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	(Contd. of page
IMDG, IATA	ISOPROPANOL (ISOPROPYL ALCOHOL) mixture
Transport hazard class(es)	
DOT	
Class Label	3 Flammable liquids
	5
IMDG, IATA	
3	
Class	3 Flammable liquids
Label	3
Packing group	
DOT, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler code).	
EMS Number:	F-E,S-D
Stowage Category	В
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
IMDG	
Limited quantities (LQ)	IL Contro E2
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 50 ml
UN "Model Regulation":	UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL)
Un mouel Regulation .	MIXTURE, 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.

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<sup>-</sup> US

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Trade name: Endo-Wash Buffer

	(Contd. of page
Section 313 (Specific toxic chemical listings):	
CAS: 67-63-0 propan-2-ol	
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)	
CAS: 67-63-0 propan-2-ol	A
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 Glob Hazard pictograms GHS02, GHS07 Signal word Danger	pally Harmonized System (GHS).
<ul> <li>Hazard-determining components of labeling: guanidinium chloride propan-2-ol</li> <li>Hazard statements</li> <li>Highly flammable liquid and vapor.</li> <li>Harmful if swallowed.</li> <li>Causes skin irritation.</li> <li>Causes serious eye irritation.</li> <li>May cause drowsiness or dizziness.</li> <li>Precautionary statements</li> <li>Keep away from heat/sparks/open flames/hot surfaces No smoking.</li> <li>Ground/bond container and receiving equipment.</li> <li>Use explosion-proof electrical/ventilating/lighting/equipment.</li> <li>Use only non-sparking tools.</li> <li>Take precautionary measures against static discharge.</li> <li>Avoid breathing dust/fume/gas/mist/vapors/spray</li> <li>Wash thoroughly after handling.</li> </ul>	
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.	
Rinse mouth.	(Contd. on page

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Specific treatment (see on this label).
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.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use CO2, powder or water spray to extinguish.
Store in a well-ventilated place. Keep cool.
Store in a well-ventilated place. Keep cool.
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: Zymo Research Corp. Safety Department 17062 Murphy Ave. Irvine, CA 92614 USA Phone: 1-949-679-1190 or 1-888-882-9682 · Contact: sds@zymoresearch.com · Date of preparation / last revision 08/15/2023 · 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) 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 BEI: Biological Exposure Limit Flammable Liquids 2: Flammable liquids - Category 2 Acute Toxicity - Oral 4: Acute toxicity - Category 4 Skin Irritation 2: Skin corrosion/irritation - Category 2 Eye Irritation 2A: Serious eye damage/eye irritation - Category 2A Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) - Category 3



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Identification	
Identification	
· Product identifier	
· Trade name: Plasmid Wash Buffer	
• Article number: D4027-4-6, D4027-4-12, D40 • Application of the substance / the mixture Lab	
<ul> <li>Details of the supplier of the safety data sheet</li> <li>Manufacturer/Supplier:</li> <li>Zymo Research Corp.</li> <li>17062 Murphy Ave., Irvine, CA 92614, U.S.A sds@zymoresearch.com</li> </ul>	., Phone: +1(949) 679-1190 or +1(888) 882-9682,
Information department: Product Safety Dept	
<i>Emergency telephone number:</i> During normal business hours (8 am to 5 pm Pa	acific Standard Time): +1 (949) 679 1190
Hazard(s) identification	
Classification of the substance or mixture The product is not classified, according to the o	Globally Harmonized System (GHS).
	Globally Harmonized System (GHS).
The product is not classified, according to the <i>Label elements</i> <i>GHS label elements</i> Void <i>Hazard pictograms</i> Void <i>Signal word</i> Void <i>Hazard statements</i> Void <i>Classification system:</i>	Globally Harmonized System (GHS).
The product is not classified, according to the of <i>Label elements</i> <i>GHS label elements</i> Void <i>Hazard pictograms</i> Void <i>Signal word</i> Void <i>Hazard statements</i> Void <i>Classification system:</i> <i>NFPA ratings (scale 0 - 4)</i> Health = 0 Fire = 0	Globally Harmonized System (GHS).
The product is not classified, according to the of <i>Label elements</i> <i>GHS label elements</i> Void <i>Hazard pictograms</i> Void <i>Signal word</i> Void <i>Hazard statements</i> Void <i>Classification system:</i> <i>NFPA ratings (scale 0 - 4)</i> Health = 0 Fire = 0 Reactivity = 0	Globally Harmonized System (GHS).

# 3 Composition/information on ingredients

· Chemical characterization: Mixtures

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

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· Dangerous components: Void

### 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:

Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

- · After swallowing: Do not induce vomiting; immediately call for medical help.
- 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. Use fire fighting measures that suit the environment.

- · Advice for firefighters
- · Protective equipment: Wear protective clothing.

### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- 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:

All components have the value 12 mg/m<sup>3</sup>.

#### · PAC-2:

All components have the value  $130 \text{ mg/m}^3$ .

• PAC-3:

All components have the value 790 mg/m<sup>3</sup>.

## 7 Handling and storage

#### · Handling:

· Precautions for safe handling No special measures required.

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· 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)* Laboratory reagent

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.

Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Liquid	
Color:	Clear	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	Undetermined.	

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	(Contd. of page
· 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 Applicable
Upper:	Not Applicable
· Vapor pressure:	Not determined.
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/wa	ter): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	2.0 %
· 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.

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### Trade name: Plasmid Wash Buffer

• 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.

### · 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

· Uncleaned packagings:

· Recommendation:

Dispose of container in acoordance with local/regional/national and international recommendations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

# 14 Transport information

· UN-Number · DOT, ADN, IMDG, IATA	not regulated	
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated	
• Transport hazard class(es)		
· DOT, ADN, IMDG, IATA · Class	not regulated	
		(Contd. on page 6)

(Contd. of page 4)

<sup>·</sup> Waste treatment methods

<sup>·</sup> Recommendation: Smaller quantities can be disposed of with household waste.

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	(Contd. of page 5	)
· Packing group · DOT, IMDG, IATA	not regulated	
· Environmental hazards:	Not applicable.	
• Special precautions for user	Not applicable.	]
• Transport in bulk according to Annex II MARPOL73/78 and the IBC Code	<i>of</i> Not applicable.	
· UN "Model Regulation":	not regulated	]

## 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

(Contd. on page 7)

<sup>–</sup> US

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Trade name: Plasmid Wash Buffer

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# · 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:

Zymo Research Corp. Safety Department 17062 Murphy Ave. Irvine, CA 92614 USA Phone: 1-949-679-1190 or 1-888-882-9682 · Contact: sds@zymoresearch.com · Date of preparation / last revision 08/15/2023 • 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



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Product identifier	
Trade name: DNA Elut	on Buffer
	4-1, D3004-4-4, D3004-4-10, D3004-4-16, D3004-4-50 <i>ance / the mixture</i> Laboratory Reagent
Details of the supplier of Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irv sds@zymoresearch.com	f the safety data sheet ine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
Information department Emergency telephone n During normal business	
Hazard(s) identifica Classification of the sub	
	fied, according to the Globally Harmonized System (GHS).
Label elements	
GHS label elements Voi Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 -	1
GHS label elements Voi Hazard pictograms Void Signal word Void Hazard statements Void Classification system:	<i>4)</i>
GHS label elements Voi Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale $0$ - Health = 0 Fire = 0 Reactivity	
GHS label elements Voi Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 - Health = 0 Fire = 0	4) = 0 4) 0
GHS label elements Void         Hazard pictograms Void         Signal word Void         Hazard statements Void         Classification system:         NFPA ratings (scale 0 -         Image: Provide the system         Health = 0         Fire = 0         Reactivity         HMIS-ratings (scale 0 -         HEALTH       Image: Pire = 0         Fire = 0       Fire = 0	$ \begin{array}{l} 4) \\ = 0 \\ 4) \\ 0 \\ y = 0 \end{array} $

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

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· Dangerous components: Void

### 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:

Wash eyes immediately, for at least 15 minutes, with large amounts of water, holding upper and lower lids open. Remove contact lenses, if present and it is easy to do so. Get medical attention immediately.

- · After swallowing: Do not induce vomiting; immediately call for medical help.
- 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. Use fire fighting measures that suit the environment.

- · Advice for firefighters
- · Protective equipment: Wear protective clothing.

## 6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Wear protective clothing.

• Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground 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

CAS: 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	12 mg/m <sup>2</sup>
CAS: 6381-92-6 Edetate Disodium, Dihydrate	30 mg/m
· PAC-2:	·
CAS: 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	130 mg/m <sup>2</sup>
CAS: 6381-92-6 Edetate Disodium, Dihydrate	330 mg/m <sup>2</sup>
· PAC-3:	
CAS: 1185-53-1 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	790 mg/m <sup>3</sup>
	(Contd. on page

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CAS: 6381-92-6 Edetate Disodium, Dihydrate

## 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) Laboratory reagent

## 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.

	ysical and chemical properties	
General Information		
Appearance:		
Form:	Liquid	
Color:	Clear	

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Odor:	Odorless
Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
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 Applicable
Upper:	Not Applicable
· Vapor pressure:	Not determined.
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/wa	ter): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	2.0 %
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.

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## 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.
- $\cdot$  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.

· 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

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · 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:

Dispose of container in acoordance with local/regional/national and international recommendations.

· Recommended cleansing agent: Water, if necessary with cleansing agents.

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UN-Number DOT, ADN, IMDG, IATA	not regulated	
UN proper shipping name DOT, ADN, IMDG, IATA	not regulated	
Transport hazard class(es)		
DOT, ADN, IMDG, IATA Class	not regulated	
Packing group DOT, IMDG, IATA	not regulated	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
UN "Model Regulation":	not regulated	

# 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):

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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.

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• *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: Zymo Research Corp. Safety Department 17062 Murphy Ave. Irvine, CA 92614 USA Phone: 1-949-679-1190 or 1-888-882-9682 · Contact: sds@zymoresearch.com · Date of preparation / last revision 08/15/2023 · 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