

10/16/2023	Kit Components	
Product code	Description	
D5020, D5021	EZ DNA Methylation-Direct Kit	
Components:		
D3001-2-A, D3001-2-B	Proteinase K	
D3001-2-C	Proteinase K Storage Buffer	
D5020-9	M-Digestion Buffer (2X)	
D5001-1	CT Conversion Reagent	
D5001-2, D5002-2	M-Dilution Buffer	
D5020-7	M-Solubilization Buffer	
D5020-8	M-Reaction Buffer	
D5001-3	M-Binding Buffer	
D5001-4	M-Wash Buffer (Concentrate)	
D5001-5	M-Desulphonation Buffer	
D5001-6	M-Elution Buffer	



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Identification	
Product identifier	
Trade name: Proteinase K	
<i>Article number:</i> D3001-2-A, D3001-2-B, D3 <i>Application of the substance / the mixture</i> La	
Details of the supplier of the safety data shee Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A sds@zymoresearch.com	et A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
Information department: Product Safety Dep	ıt.
<i>Emergency telephone number:</i> During normal business hours (8 am to 5 pm I	Pacific Standard Time): +1 (949) 679 1190
Classification of the substance or mixture	
The product is not classified, according to the <i>Label elements GHS label elements</i> Void	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system:	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 - 4) Health = 0 Fire = 0	Globally Harmonized System (GHS).
The product is not classified, according to the Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 - 4) 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:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

• PAC-3:

None of the ingredients is listed.

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.

• Eve protection: Goggles recommended during refilling.

Information on basic physical and General Information	chemical properties	
Appearance:		
Form:	Crystalline powder	
Color:	Whitish	
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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Trade name: Proteinase K

	(Contd. of page 3)
· 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: Upper:	Not Applicable Not Applicable
· Vapor pressure:	Not determined.
· Density: · Relative density · Vapor density · Evaporation rate	Not determined. Not determined. Not determined. Not determined.
• Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water	:): Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. 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.

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: Proteinase K

• 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)

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[·] Waste treatment methods

[·] Recommendation: Smaller quantities can be disposed of with household waste.

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Trade name: Proteinase K

		(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):

None of the ingredients is listed.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• TLV (Threshold Limit Value)

None of the ingredients is listed.

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

None of the ingredients is listed.

• GHS label elements Void

· Hazard pictograms Void

· Signal word Void

· Hazard statements Void

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Trade name: Proteinase K

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

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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 10/16/2023 • 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 · Trada nama: Brotainasa K Stonaga Buff	Com.
• Trade name: Proteinase K Storage Buff • Article number: D3001-2-C, D3001-2-D • Application of the substance / the mixtu	р, D3001-2-Е, D3001-2-G
 Details of the supplier of the safety data Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, Usds@zymoresearch.com 	<i>sheet</i> U.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	7 Dept. pm Pacific Standard Time): +1 (949) 679 1190
Hazard(s) identification	
<i>Classification of the substance or mixtua</i> The product is not classified, according to	<i>re</i> 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) 	
$\begin{array}{c} \textbf{Health} = 0\\ Fire = 1\\ Reactivity = 0 \end{array}$	
HMIS-ratings (scale 0 - 4)HEALTHIFIRE1FIRE1REACTIVITYIReactivity0	
• Other hazards • Results of PBT and vPvB assessment • PBT: Not applicable.	

• Chemical characterization: Mixtures

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

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Trade name: Proteinase K Storage Buffer

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≤50%

· Dangerous components:

CAS: 56-81-5 glycerol

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

• PAC-1:

All components have the value 45 mg/m^3 .

· PAC-2:

All components have the value 180 mg/m³.

• PAC-3:

All components have the value $1,100 \text{ mg/m}^3$.

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Reviewed on 03/15/2021

Trade name: Proteinase K Storage Buffer

(Contd. of page 2)

7 Handling and storage

- · Handling:
- Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: None.
- Specific end use(s) 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: 56-81-5 glycerol

PEL Long-term value: 15* 5** mg/m³

mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

• 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 \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:* Goggles recommended during refilling.

Information on basic phy.	sical and chemical properties	
General Information	1 1	
Appearance:		
Form:	Liquid	
Color:	Clear	

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Trade name: Proteinase K Storage Buffer

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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:	290 °C (554 °F)
· Flash point:	160 °C (320 °F)
· Flammability (solid, gaseous):	Not applicable.
· Auto igniting:	400 °C (752 °F)
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	0.9 Vol %
Upper:	0.0 Vol %
· Vapor pressure at 20 °C (68 °F):	0.1 hPa
· 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:	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.

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Trade name: Proteinase K Storage Buffer

· 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.
- 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.

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Trade name: Proteinase K Storage Buffer

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

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 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):

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.

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(Contd. of page 5)

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Trade name: Proteinase K Storage Buffer

(Contd. of page 6)

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• *TLV (Threshold Limit Value)* None of the ingredients is listed.

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

None of the ingredients is listed.

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

16 Other information

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

· Department issuing SDS: 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 10/16/2023 • 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

US



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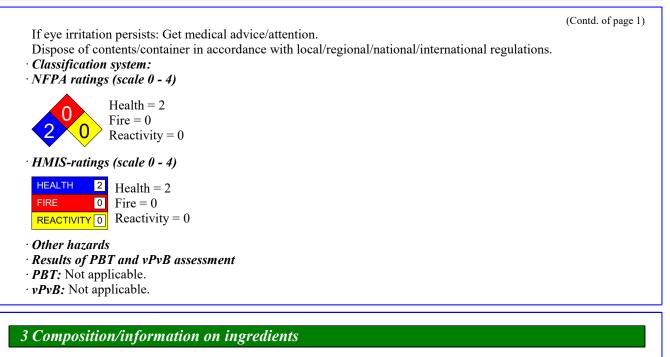
Identification	
Product identifier	
Trade name: M-Dig	estion Buffer (2X)
Article number: D50	
Manufacturer/Supple Zymo Research Corp	Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
	nent: Product Safety Dept.
<i>Emergency telephon</i> During normal busin	<i>e number:</i> ess hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190
Hazard(s) identif	ication
GHS07	
Acute Toxicity - Ora	4 H302 Harmful if swallowed.
Acute Toxicity - Ora Skin Irritation 2	4 H302 Harmful if swallowed. H315 Causes skin irritation.
•	
Skin Irritation 2 Eye Irritation 2A Label elements GHS label elements Hazard pictograms (Signal word Warning	H315 Causes skin irritation. H319 Causes serious eye irritation. The product is classified and labeled according to the Globally Harmonized System (GHS). GHS07
Skin Irritation 2 Eye Irritation 2A <i>Label elements</i> <i>GHS label elements</i> <i>Hazard pictograms G</i> <i>Signal word</i> Warning <i>Hazard-determining</i> guanidinium chloride <i>Hazard statements</i> Harmful if swallowed Causes skin irritation Causes serious eye ir <i>Precautionary staten</i> 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	H315 Causes skin irritation. H319 Causes serious eye irritation. The product is classified and labeled according to the Globally Harmonized System (GHS). GHS07 g components of labeling:

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Trade name: M-Digestion Buffer (2X)



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

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CAS: 50-01-1 guanidinium chloride
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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)

≤30%

Printing date 10/16/2023

Reviewed on 03/15/2021

Trade name: M-Digestion Buffer (2X)

(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:

All components have the value 1.4 mg/m³.

· PAC-2:

All components have the value 16 mg/m³.

• PAC-3:

All components have the value 94 mg/m³.

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

- Prevent formation of aerosols.
- · Information about protection against explosions and fires: 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

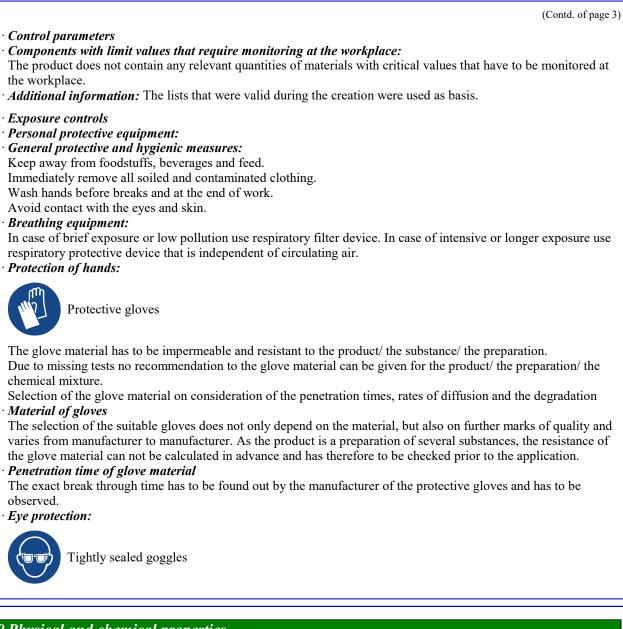
· Additional information about design of technical systems: No further data; see section 7.

(Contd. on page 4)

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Trade name: M-Digestion Buffer (2X)

Reviewed on 03/15/2021



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.	

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Reviewed on 03/15/2021

Trade name: M-Digestion Buffer (2X)

	(Contd. of page 4)
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: Upper:	Not Applicable Not Applicable
· Vapor pressure:	Not determined.
 Density: Relative density Vapor density Evaporation rate 	Not determined. Not determined. Not determined. Not determined.
Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water): Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	30.0 %
• 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)

(Contd. on page 6)

05

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Reviewed on 03/15/2021

Trade name: M-Digestion Buffer (2X)

(Contd. of page 5)

• *Primary irritant effect:* • *on the skin:* No irritant effect.

• 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.

- · 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

(Contd. on page 7)

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Trade name: M-Digestion Buffer (2X)

	(Con	ntd. of page 6)
· 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):
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.
(Contd. on page 8

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Trade name: M-Digestion Buffer (2X)

 GHS label elements The product is classified and labeled according to the Globally Hazard pictograms GHS07 Signal word Warning 	(Contd. of page 7) Harmonized System (GHS).
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, i	f present and easy to do
Continue rinsing.	present and easy to do.
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	l regulations
• Chemical safety assessment: A Chemical Safety Assessment has not been carried or	
16 Other information	
This information is based on our present knowledge. However, this shall not constitute product features and shall not establish a legally valid contractual relationship.	ite a guarantee for any specific
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 10/16/2023	
Abbreviations and acronyms:	
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agree	ment 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	
1	
EINECS: European Inventory of Existing Commercial Chemical Substances	
EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances	
ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society)	
ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)	
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)	
ELINCS: European List of Notified Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)	
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	
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	
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	
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	

(Contd. on page 9)

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Trade name: M-Digestion Buffer (2X)

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 (Contd. of page 8)



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Reviewed on 03/15/2021

1 Identification	
· Product identifier	
• Trade name: CT Conversion Reagent	
• Article number: D5001-1, D5003-1 • Application of the substance / the mixture Laboratory Reagent	
 Details of the supplier of the safety data sheet Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) sds@zymoresearch.com 	882-9682,
· Information department: Product Safety Dept.	
• Emergency telephone number: During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 11	90
2 Hazard(s) identification	
· Classification of the substance or mixture	
GHS05 Corrosion	
Eye Damage 1 H318 Causes serious eye damage.	
GHS07 Acute Toxicity - Oral 4 H302 Harmful if swallowed. • <i>Label elements</i> • <i>GHS label elements</i> The product is classified and labeled according to the Globally H • <i>Hazard pictograms</i> GHS05, GHS07 • <i>Signal word</i> Danger	armonized System (GHS).
• <i>Hazard-determining components of labeling:</i> sodium metabisulphite • <i>Hazard statements</i>	
Harmful if swallowed. Causes serious eye damage.	
· 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 in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if p Continue rinsing.	present and easy to do.
Immediately call a poison center/doctor.	-1. ť
Dispose of contents/container in accordance with local/regional/national/international	regulations

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Reviewed on 03/15/2021

Trade name: CT Conversion Reagent

(Contd. of page 1)

≤100%

• Classification system: • NFPA ratings (scale 0 - 4)

 $\begin{array}{c} \textbf{Health} = 3\\ \textbf{Fire} = 0\\ \textbf{Reactivity} = 0 \end{array}$

· HMIS-ratings (scale 0 - 4)

HEALTH*3Health = *3FIRE0Fire = 0REACTIVITY0Reactivity = 0

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

• *vPvB*: Not applicable.

3 Composition/information on ingredients

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

CAS: 7681-57-4 sodium metabisulphite

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: 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.

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. Use fire fighting measures that suit the environment.

(Contd. on page 3)

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(Contd. of page 2)

Trade name: CT Conversion Reagent

· Advice for firefighters

· Protective equipment: Wear self-contained breathing apparatus for fighting fires involving this material

6 Accidental release measures

• *Personal precautions, protective equipment and emergency procedures* Wear self-contained breathing apparatus for responding to non-incidental release of this material in which there is the potential for inhalation of vapors, mists or sprays

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.

• Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to section 13.

· 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 15 mg/m^3 .

· PAC-2:

All components have the value 64 mg/m^3 .

• PAC-3:

All components have the value 390 mg/m³.

7 Handling and storage

· Handling:

· Precautions for safe handling

No special precautions are necessary if used correctly. Avoid breathing dust, vapor, mist or gas. Avoid prolonged or reapeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away.

· 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: Do not store together with acids or strong oxidizers
- 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:

CAS: 7681-57-4 sodium metabisulphite

- REL Long-term value: 5 mg/m³
- TLV Long-term value: 5 mg/m³

A4

(Contd. on page 4)

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Trade name: CT Conversion Reagent

Additional information: The lists that were valid during the creation were used as basis.	(Contd. of page 3)
Exposure controls	
Personal protective equipment:	
General 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.	
Breathing equipment: Not required.	
Protection of hands:	
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation	n.
Due to missing tests no recommendation to the glove material can be given for the product/ the prep	
chemical mixture.	
Selection of the glove material on consideration of the penetration times, rates of diffusion and the d	legradation
Material of gloves	0
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 appl	ication.
Penetration time of glove material	
The exact break through time has to be found out by the manufacturer of the protective gloves and h	as to be
observed.	
Eye protection:	
Tightly sealed goggles	
Physical and chemical properties	
The formula of the second se	

• General Information		
· Appearance:	D 1	
Form:	Powder	
Color: • Odor:	Whitish	
· Odor: · Odor threshold:	Pungent Not determined.	
· pH-value:	Not applicable.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	Undetermined.	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not determined.	
• Decomposition temperature:	Not determined.	
· Ignition temperature:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
· Explosion limits:		
Lower:	Not Applicable	
		(Contd. on page 2

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Reviewed on 03/15/2021

Trade name: CT Conversion Reagent

		(Contd. of page 4
Upper:	Not Applicable	
· Vapor pressure:	Not applicable.	
• Density at 20 °C (68 °F):	1.2 g/cm ³ (10.014 lbs/gal)	
· Relative density	Not determined.	
Vapor density	Not applicable.	
Evaporation rate	Not applicable.	
Solubility in / Miscibility with		
Water:	Soluble.	
Partition coefficient (n-octanol/	<i>water):</i> Not determined.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
Solvent content:		
VOC content:	0.00 %	
• Other information	No further relevant information available.	

10 Stability and reactivity

• *Reactivity* No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions Contact with acids releases toxic gases.
- · 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: Strong irritant with the danger of severe eye injury.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:
- The product shows the following dangers according to internally approved calculation methods for preparations: Harmful
- Irritant
- · Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

·NTP (National Toxicology Program)

None of the ingredients is listed.

(Contd. on page 6)

US –

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Reviewed on 03/15/2021

Trade name: CT Conversion Reagent

(Contd. of page 5)

- · OSHA-Ca (Occupational Safety & Health Administration)
- None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes:
- 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.

14 Transport information

UN-Number DOT, ADN, IMDG, IATA	not regulated	
DOI, ADN, IMDO, IATA	liot 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 of	
MARPOL73/78 and the IBC Code	Not applicable.	

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(Contd. of page 6)

Trade name: CT Conversion Reagent

· 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)

All components have the value A4.

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

None of the ingredients is listed.

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

· Hazard pictograms GHS05, GHS07

· Signal word Danger

• *Hazard-determining components of labeling:* sodium metabisulphite • *Hazard statements*

Harmful if swallowed.

Causes serious eye damage.

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.

(Contd. on page 8)

⁻ US

Printing date 10/16/2023

Reviewed on 03/15/2021

(Contd. of page 7)

Trade name: CT Conversion Reagent

Rinse mouth.

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

Immediately call a poison center/doctor.

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 10/16/2023 • 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 Acute Toxicity - Oral 4: Acute toxicity - Category 4 Eye Damage 1: Serious eye damage/eye irritation - Category 1



Printing date 10/16/2023

Reviewed on 03/15/2021

1 Identification		
· Product identifi	er	
· Trade name: M		
• Article number:	D5001-2, D5002-2, D5005-2, D5006-2 he substance / the mixture Laboratory Reagent	
• Details of the su • Manufacturer/S Zymo Research	Ave. , Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 88	2-9682,
· Emergency tele	<i>partment:</i> Product Safety Dept. <i>phone number:</i> pusiness hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190	
2 Hazard(s) ide	entification f the substance or mixture	
$\mathbf{\nabla}$	D5 Corrosion1B H314 Causes severe skin burns and eye damage.H318 Causes serious eye damage.	
 Label elements GHS label elem Hazard pictogra Signal word Da 		nonized System (GHS).
sodium hydroxid	nts	
· Hazard stateme		
Causes severe sl <i>Precautionary s</i> Do not breathen Wash thoroughl Wear protective	nist/vapours/spray. y after handling. gloves/protective clothing/eye protection/face protection.	
Causes severe sl • <i>Precautionary s</i> Do not breather Wash thoroughl Wear protective If swallowed: Ri If on skin (or ha IF INHALED: F	<i>tatements</i> nist/vapours/spray. y after handling.	
Causes severe sl <i>Precautionary s</i> Do not breather Wash thoroughl Wear protective If swallowed: Ri If on skin (or ha IF INHALED: F If in eyes: Rinse Continue rinsing Immediately cal Specific treatme	tatements nist/vapours/spray. y after handling. gloves/protective clothing/eye protection/face protection. inse mouth. Do NOT induce vomiting. ir): Take off immediately all contaminated clothing. Rinse skin with wate temove person to fresh air and keep comfortable for breathing. cautiously with water for several minutes. Remove contact lenses, if prese	

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Trade name: M-Dilution Buffer

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≤5%

• Classification system: • NFPA ratings (scale 0 - 4)

> Health = 3 Fire = 0 Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH3Health = 3FIRE0Fire = 0REACTIVITY0Reactivity = 0

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

• *vPvB*: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- \cdot **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
- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- 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.

- 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. Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture

Products of thermal decomposition of this material would include caustic vapors as well as sodium and sulfur compounds.

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Trade name: M-Dilution Buffer

• Advice for firefighters

• *Protective equipment:* Wear protective clothing, including self-contained breathing apparatus, for fighting fires involving this material.

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).
 Use neutralizing agent.
 Dispose contaminated material as waste according to section 13.
 Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

• PAC-1:

All components have the value 0.5 mg/m^3 .

· PAC-2:

All components have the value 5 mg/m^3 .

• PAC-3:

All components have the value 50 mg/m³.

7 Handling and storage

· Handling:

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires: No special measures required.

· Conditions for safe storage, including any incompatibilities

· Storage:

• Requirements to be met by storerooms and receptacles:

Store in cool, dry place. Store in well-ventilated location.

· Information about storage in one common storage facility:

Do not store together with acids, chlorinated solvents, and reactive metals (e.g. aluminum, phosphorous, tin/tin oxides, zinc).

· 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.

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Trade name: M-Dilution Buffer

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· Control parameters

Work under a chemical fume hood when using this product. Ensure eyewash station and safety showers are readily accessible.

· Components with limit values that require monitoring at the workplace:

CAS: 1310-73-2 sodium hydroxide

PEL Long-term value: 2 mg/m³

REL Ceiling limit value: 2 mg/m³

TLV Ceiling limit value: 2 mg/m³

• *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

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance: Form: Color:

· Odor:

Liquid Clear Odorless

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Trade name: M-Dilution Buffer

		(Contd. of page
· 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:	4.5 %	
· 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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Trade name: M-Dilution Buffer

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11 Toxicological information

- · Information on toxicological effects
- Acute toxicity:
- Primary irritant effect:
- · on the skin: Caustic effect on skin and mucous membranes.
- · on the eye: Strong caustic effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

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

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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

- 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.

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Trade name: M-Dilution Buffer

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

Transport information	
UN-Number DOT, IMDG, IATA	UN1824
UN proper shipping name DOT IMDG, IATA	Sodium hydroxide solution SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
DOT	
CORROSIVE 3	
Class Label	8 Corrosive substances 8
IMDG, IATA	
Class Label	8 Corrosive substances 8
Packing group DOT, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Corrosive substances
Hazard identification number (Kemler code):	
EMS Number:	F-A,S-B
Segregation groups	(SGG18) Alkalis
Stowage Category	A SC25 Stow "commented from" SCC1 poids
Segregation Code	SG35 Stow "separated from" SGG1-acids
<i>Transport in bulk according to Annex II of</i> <i>MARPOL73/78 and the IBC Code</i>	Not applicable.
Transport/Additional information:	
DOT Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
IMDG	
Limited quantities (LQ)	1L
Excepted quantities ($\widetilde{E}Q$)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

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Trade name: M-Dilution Buffer

• UN "Model Regulation":

UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

15 Regulatory information

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

· Sara

• Section 355 (extremely hazardous substances):

None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

• *TSCA (Toxic Substances Control Act):* All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

• Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

None of the ingredients is listed.

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

None of the ingredients is listed.

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

· Hazard pictograms GHS05

· Signal word Danger

• *Hazard-determining components of labeling:* sodium hydroxide

· Hazard statements

Causes severe skin burns and eye damage.

· Precautionary statements

Do not breathe mist/vapours/spray.

Wash thoroughly after handling.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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Trade name: M-Dilution Buffer

(Contd. of page 8)

IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

Store locked up.

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

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

16 Other information

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

• Department issuing SDS:

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 10/16/2023 • 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 Corrosion 1B: Skin corrosion/irritation - Category 1B Eye Damage 1: Serious eye damage/eye irritation - Category 1



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Product i	dentifier	
Trade na	me: M-Solubilization Buffer	
	umber: D5020-7, D5021-7 on of the substance / the mixture Laboratory Reagent	
Manufaci Zymo Res 17062 Mu	f the supplier of the safety data sheet turer/Supplier: search Corp. urphy Ave., Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682, oresearch.com	
Emergen	<i>ion department:</i> Product Safety Dept. <i>cy telephone number:</i> ormal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190	
Hazard	(s) identification	
	ntion of the substance or mixture act is not classified, according to the Globally Harmonized System (GHS).	
Hazard p Signal wo Hazard st Classifica	el elements Void ictograms Void	
01	Health = 0 Fire = 1 Reactivity = 0	
HMIS-ra	tings (scale 0 - 4)	
HEALTH FIRE REACTIVIT	 Health = 0 Fire = 1 Reactivity = 0 	
PBT: Not	zards f PBT and vPvB assessment t applicable. ot applicable.	
	sition/information on ingredients	

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Trade name: M-Solubilization Buffer

(Contd. of page 1)

≤50%

· Dangerous components:

CAS: 56-81-5 glycerol

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

• PAC-1:

All components have the value 45 mg/m^3 .

· PAC-2:

All components have the value 180 mg/m³.

• **PAC-3:**

All components have the value $1,100 \text{ mg/m}^3$.

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Safety Data Sheet acc. to OSHA HCS

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Trade name: M-Solubilization Buffer

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:

CAS: 56-81-5 glycerol

PEL Long-term value: 15* 5** mg/m³

mist; *total dust **respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

• 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 \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:* Goggles recommended during refilling.

Information on basic phy	sical and chemical properties	
General Information		
Appearance:		
Form:	Liquid	
Color:	Clear	

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Trade name: M-Solubilization Buffer

	(Contd. of page	
· Odor:	Odorless	
· Odor threshold:	Not determined.	
· pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	290 °C (554 °F)	
· Flash point:	160 °C (320 °F)	
Flammability (solid, gaseous):	Not applicable.	
Auto igniting:	400 °C (752 °F)	
Decomposition temperature:	Not determined.	
Ignition temperature:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	0.9 Vol %	
Upper:	0.0 Vol %	
· Vapor pressure at 20 °C (68 °F):	0.1 hPa	
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:	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.

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Trade name: M-Solubilization Buffer

· 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.
- 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.

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Trade name: M-Solubilization Buffer

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

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 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):

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.

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Trade name: M-Solubilization Buffer

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· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

• *TLV (Threshold Limit Value)* None of the ingredients is listed.

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

None of the ingredients is listed.

· GHS label elements Void

· Hazard pictograms Void

· Signal word Void

• Hazard statements Void

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

16 Other information

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

• Department issuing SDS: 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 10/16/2023 • 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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Trade name: H-Reaction Buffer Article number: D5020-8, D5021-8 Application of the substance / the mixture Laboratory Reagent Details of the supplier of the safety data sheet Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682, ss@@zymoresearch.com Information department: Product Safety Dept. Emergency telephone number: During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190 Hazard(s) identification Guestification of the substance or mixture Image: GHS02 Flame Flammable Liquids 2 H225 Highly flammable liquid and vapor. Image: GHS07 Eye Irritation 2A H319 Causes serious eye irritation. Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness. Label elements The product is classified and labeled according to the Globally Harmonized System (GHS) Mazard Jeicograms GHS02, GHS07 Signal word Danger Hazard statements Hazard statements Highly flammable liquid and vapor. Causes serious eye irritation. Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or dizziness.	Identification	
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	(Contd. of page 1)
Use only outdoors or in a well-ventilated area.	
Wear protective gloves/protective clothing/eye protection/face protection.	
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.	
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 ea	sy to do.
Continue rinsing.	
Call a poison center/doctor if you feel unwell.	
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:	
· NFPÅ ratings (scale 0 - 4)	
Health = 2 Fire = 3 Reactivity = 0	
· HMIS-ratings (scale 0 - 4)	
HEALTH 2 Health $= 2$	
FIRE 3 Fire = 3	
$\frac{1}{\text{REACTIVITY}[0]} \text{ Reactivity} = 0$	
REACTIVITY U REACTIVITY = 0	
· Other hazards	
· Results of PBT and vPvB assessment	
• <i>PBT</i> : Not applicable.	
<i>vPvB</i> : Not applicable.	
11	
	_
3 Composition/information on ingredients	

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

· Dangerous components:

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

≤50%

4 First-aid measures

- · Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.
- After eye contact:

Rinse opened eye for several minutes under running water. 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.

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• *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.
- 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). 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:

All components have the value 400 ppm.

· PAC-2:

All components have the value 2000* ppm.

• PAC-3:

All components have the value 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.

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· 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: 67-63-0 propan-2-ol

PEL Long-term value: 980 mg/m³, 400 ppm

- REL Short-term value: 1225 mg/m³, 500 ppm Long-term value: 980 mg/m³, 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.

· Exposure controls

· Personal protective equipment:

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work.

Avoid contact with the eyes. Avoid contact with the eyes and skin.

· Breathing equipment:

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

· Protection of hands:



Protective gloves

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

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

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

· Penetration time of glove material

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

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• Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

General Information Appearance:	
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:	Undetermined.
Flash point:	13 °C (55.4 °F)
Flammability (solid, gaseous):	Highly flammable.
Auto igniting:	425 °C (797 °F)
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	
Viscosity:	Not determined.
Dynamic: Kinematic:	Not determined.
Solvent content:	40.0.07
Organic solvents:	49.0 %
VOC content:	49.00 % 490.0 g/l / 4.09 lb/gal

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Solids content:

0.0~%

• Other information

No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.

· Chemical stability

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

· Possibility of hazardous reactions No dangerous reactions known.

· Conditions to avoid No further relevant information available.

· Incompatible materials: No further relevant information available.

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

· LD/LC50 values that are relevant for classification:

CAS:	67-63-0	propan-2-ol
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5,045 mg/kg (rat)

Dermal LD50 12,800 mg/kg (rabbit)

Inhalative LC50/4 h 30 mg/l (rat)

· Primary irritant effect:

• on the skin: No irritant effect.

• 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)

All components have the value 3.

·NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

· Toxicity

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

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• 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 IMDG, IATA	Isopropanol solution ISOPROPANOL (ISOPROPYL ALCOHOL) solution
Transport hazard class(es)	
DOT	
PLANIABLE (DJD)	
· Class	3 Flammable liquids
· Label	3
· IMDG, IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group · DOT, IMDG, IATA	II
Environmental hazards:	Not applicable.
Special precautions for user Hazard identification number (Keml	Warning: Flammable liquids

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F-E,S-D
В
Not applicable.
On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L
1L
Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL) SOLUTION, 3, II

15 Regulatory information

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

· Sara

• Section 355 (extremely hazardous substances):

None of the ingredients is listed.

• Section 313 (Specific toxic chemical listings):

All ingredients are 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)

All components have the value A4.

(Contd. on page 9)

US

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Reviewed on 03/15/2021

Trade name: M-Reaction Buffer

	(Contd. of page 8
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 Harmon Hazard pictograms GHS02, GHS07 Signal word Danger	nized System (GHS).
Hazard-determining components of labeling:	
propan-2-ol	
Hazard statements	
Highly flammable liquid and vapor.	
Causes serious eye irritation.	
May cause drowsiness or dizziness.	
Precautionary statements	
Keep away from heat/sparks/open flames/hot surfaces No smoking.	
Ground/bond container and receiving equipment.	
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.	
Use only outdoors or in a well-ventilated area.	
Wear protective gloves/protective clothing/eye protection/face protection.	
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/s	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 presen	nt and easy to do.
Continue rinsing.	
Call a poison center/doctor if you feel unwell.	
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 regul	ations.
<i>Chemical safety assessment:</i> A Chemical Safety Assessment has not been carried out.	

16 Other information

• Department issuing SDS:

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.

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* 10/16/2023 • *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 Transport Association IATA: International Air Transport Association

Printing date 10/16/2023

Reviewed on 03/15/2021

Trade name: M-Reaction Buffer

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	(Contd. of page 9)
· 1	
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	
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	



Printing date 10/16/2023

Reviewed on 03/15/2021

Identification	
·	
Product identifier	
Trade name: M-Bindi	ng Buffer
	1-3, D5002-3, D5005-3, D5006-3, D5040-3, D5049-3 <i>stance / the mixture</i> Laboratory Reagent
<i>Manufacturer/Supplie</i> Zymo Research Corp.	rvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
	ent: Product Safety Dept.
Emergency telephone	
During normal busines	s hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 1190
Hazard(s) identific	ation
Classification of the si	ubstance or mixture
	iosunce of mixinte
GHS07	
Acute Toxicity - Oral 4	4 H302 Harmful if swallowed.
Skin Irritation 2	H315 Causes skin irritation.
Eye Irritation 2A	H319 Causes serious eye irritation.
Label elements GHS label elements T Hazard pictograms GH Signal word Warning	he product is classified and labeled according to the Globally Harmonized System (GHS). HS07
Hazard-determining c	omponents of labeling:
guanidinium chloride	
<i>Hazard statements</i> Harmful if swallowed.	
Causes skin irritation.	
Causes serious eye irrit	
Precautionary stateme	
TT7 1 1 11 0	
Wash thoroughly after	Noke when using this product
Do not eat, drink or sm	
Do not eat, drink or sm Wear eye protection / f	
Do not eat, drink or sm Wear eye protection / f If swallowed: Call a po Rinse mouth.	face protection. bison center/doctor if you feel unwell.
Do not eat, drink or sm Wear eye protection / f If swallowed: Call a po Rinse mouth. If on skin: Wash with p	face protection. bison center/doctor if you feel unwell. blenty of water.
Do not eat, drink or sm Wear eye protection / f If swallowed: Call a po Rinse mouth. If on skin: Wash with p Specific treatment (see	face protection. bison center/doctor if you feel unwell. blenty of water. on this label).
Do not eat, drink or sm Wear eye protection / f If swallowed: Call a po Rinse mouth. If on skin: Wash with p Specific treatment (see If in eyes: Rinse cautio	face protection. bison center/doctor if you feel unwell. blenty of water.
Do not eat, drink or sm Wear eye protection / f If swallowed: Call a po Rinse mouth. If on skin: Wash with p Specific treatment (see If in eyes: Rinse cautio Continue rinsing. If skin irritation occurs	face protection. bison center/doctor if you feel unwell. blenty of water. on this label).

-US

Printing date 10/16/2023

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Trade name: M-Binding Buffer

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	
 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: 50-01-1 guanidinium chloride

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)

≤60%

Printing date 10/16/2023

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Trade name: M-Binding Buffer

(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:

All components have the value 1.4 mg/m³.

· PAC-2:

All components have the value 16 mg/m^3 .

· PAC-3:

All components have the value 94 mg/m³.

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

- Prevent formation of aerosols.
- · Information about protection against explosions and fires: 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)

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Trade name: M-Binding Buffer

- · 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:	T invit	
Form:	Liquid	
Color:	Clear	
· Odor:	undistinguishable	
Odor threshold:	Not determined.	
pH-value:	Not determined.	
· Change in condition		
Melting point/Melting range:	Undetermined.	

(Contd. of page 3)

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Trade name: M-Binding Buffer

	(Contd. of	page 4)
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/wat	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:	30.0 %	
• 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)

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(Contd. of page 5)

• *Primary irritant effect:* • *on the skin:* No irritant effect.

• 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.

- · 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

(Contd. on page 7)

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Reviewed on 03/15/2021

Trade name: M-Binding Buffer

		(Contd. of page 6)
· 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
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· 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.
(Contd. on page 8)

Printing date 10/16/2023

Reviewed on 03/15/2021

Trade name: M-Binding Buffer

GHS label elen Hazard pictogr Signal word W	
Hazard-determ	ining components of labeling:
guanidinium ch	loride
Hazard stateme	ents
Harmful if swal	lowed.
Causes skin irri	tation.
Causes serious	eye irritation.
Precautionary	statements
	ly after handling.
	k or smoke when using this product.
	ction / face protection.
	all a poison center/doctor if you feel unwell.
Rinse mouth.	
	h with plenty of water.
	ent (see on this label).
	e cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsin	
	occurs: Get medical advice/attention.
	ninated clothing and wash it before reuse.
	persists: Get medical advice/attention.
	ents/container in accordance with local/regional/national/international regulations.
Chemical safet	y assessment: A Chemical Safety Assessment has not been carried out.
	n is based on our present knowledge. However, this shall not constitute a guarantee for any specifi
This informatio product features	n is based on our present knowledge. However, this shall not constitute a guarantee for any specifi s and shall not establish a legally valid contractual relationship.
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This informatio product feature: Department iss Zymo Research Safety Departm 17062 Murphy Irvine, CA 926 USA Phone: 1-949-6 Contact: sds@z Date of prepart Abbreviations of ADR: Accord relat Carriage of Danger IMDG: Internationa DOT: US Departme IATA: Internationa EINECS: European ELINCS: European CAS: Chemical Ab NFPA: National Fit HMIS: Hazardous I VOC: Volatile Org LC50: Lethal conce, LD50: Lethal dose,	n is based on our present knowledge. However, this shall not constitute a guarantee for any specifi s and shall not establish a legally valid contractual relationship. <i>uing SDS:</i> Corp. ent Ave. 14 79-1190 or 1-888-882-9682 zymoresearch.com <i>ution / last revision</i> 10/16/2023 <i>ind acronyms:</i> if au transport international des marchandises dangereuses par route (European Agreement Concerning the International ous Goods by Road) al Maritime Code for Dangerous Goods ent of Transportation 1 Air Transport Association . Inventory of Existing Commercial Chemical Substances List of Notified Chemical Substances stracts Service (division of the American Chemical Society) re Protection Association (USA) Materials Identification System (USA) anic Compounds (USA, EU) entration, 50 percent 50 percent
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This informatio product feature: Department iss Zymo Research Safety Departm 17062 Murphy Irvine, CA 926 USA Phone: 1-949-6 Contact: sds@z Date of prepart Abbreviations of ADR: Accord relat: Carriage of Danger IMDG: Internationa DOT: US Department IATA: Internationa EINECS: European CAS: Chemical Ab NFPA: National Fii HMIS: Hazardous I VOC: Volatile Org LC50: Lethal conce LD50: Lethal conce LD50: Lethal dose, PBT: Persistent, Bi vPvB: very Persistent	n is based on our present knowledge. However, this shall not constitute a guarantee for any specifi s and shall not establish a legally valid contractual relationship. <i>uing SDS:</i> Corp. ent Ave. 14 79-1190 or 1-888-882-9682 zymoresearch.com <i>ntion / last revision</i> 10/16/2023 <i>und acronyms:</i> if au transport international des marchandises dangereuses par route (European Agreement Concerning the International ous Goods by Road) ul Maritime Code for Dangerous Goods ent of Transportation 1 Air Transport Association 1 Air Transport Association 2 Air Transport Association 1 Air Transport Association 2 Air Transport Association 3 Air Transport Association (USA) 3 Materials Identification System (USA) 3 Materials Identification System (USA) 3 Materials Identification Toxic 3 Dercent 3 O percent 3
This informatio product feature: Department iss Zymo Research Safety Departm 17062 Murphy Irvine, CA 926 USA Phone: 1-949-6 Contact: sds@z Date of prepart Abbreviations of ADR: Accord relat: Carriage of Danger IMDG: Internationa DOT: US Department IATA: Internationa EINECS: European CAS: Chemical Ab NFPA: National Fii HMIS: Hazardous I VOC: Volatile Org LC50: Lethal conce LD50: Lethal conce LD50: Lethal dose, PBT: Persistent, Bi vPvB: very Persistent	n is based on our present knowledge. However, this shall not constitute a guarantee for any specifi s and shall not establish a legally valid contractual relationship. <i>uing SDS:</i> Corp. ent Ave. 14 79-1190 or 1-888-882-9682 zymoresearch.com <i>ttion / last revision</i> 10/16/2023 <i>und acronyms:</i> f au transport international des marchandises dangereuses par route (European Agreement Concerning the International ous Goods by Road) 1 Maritime Code for Dangerous Goods ent of Transport international ous Goods by Road) 1 Maritime Code for Dangerous Goods ent of Transport Association . Inventory of Existing Commercial Chemical Substances List of Notified Chemical Substances stracts Service (division of the American Chemical Society) re Protection Association (USA) Materials Identification System (USA) anic Compounds (USA, EU) entration, 50 percent 50 percent 50 percent 50 percent socumulative and Toxic nt and very Bioaccumulative sistute for Occupational Safety

Printing date 10/16/2023

Reviewed on 03/15/2021

Trade name: M-Binding Buffer

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 (Contd. of page 8)



Printing date 10/16/2023

Reviewed on 03/15/2021

tting date 10/16/2023	Reviewed on 03/15/2021
Identification	
Product identifier	
Trade name: M-Wash Buffer (Concentrate)	
Article number: D5001-4, D5002-4, D5007-4, D5040-4 Application of the substance / the mixture Laboratory Reagent	
Details of the supplier of the safety data sheet Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A., Phone: +1(949) sds@zymoresearch.com	79-1190 or +1(888) 882-9682,
<i>Information department:</i> Product Safety Dept. <i>Emergency telephone number:</i> During normal business hours (8 am to 5 pm Pacific Standard Tin	ne): +1 (949) 679 1190
Hazard(s) identification	
Hazard(s) identification Classification of the substance or mixture The product is not classified, according to the Globally Harmoniz	ed System (GHS).
Classification of the substance or mixture The product is not classified, according to the Globally Harmoniz Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system:	ed System (GHS).
Classification of the substance or mixture The product is not classified, according to the Globally Harmoniz Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system:	ed System (GHS).
Classification of the substance or mixture The product is not classified, according to the Globally Harmoniz Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 - 4) Health = 0 Fire = 0	ed System (GHS).
Classification of the substance or mixture The product is not classified, according to the Globally Harmoniz Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale $0 - 4$) Health = 0 Fire = 0 Reactivity = 0	ed System (GHS).

3 Composition/information on ingredients

• Chemical characterization: Mixtures

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

(Contd. on page 2)

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Trade name: M-Wash Buffer (Concentrate)

(Contd. of page 1)

· 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:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

• PAC-3:

None of the ingredients is listed.

7 Handling and storage

· Handling:

· Precautions for safe handling No special measures required.

(Contd. on page 3)

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Trade name: M-Wash Buffer (Concentrate)

· 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 chemical properties General Information				
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.			

(Contd. of page 2)

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Trade name: M-Wash Buffer (Concentrate)

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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 at 20 °C (68 °F):	23 hPa (17.3 mm Hg)	
Density:	Not determined.	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Fully miscible.	
Partition coefficient (n-octanol/wate	er): 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.

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.

(Contd. on page 5)

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Trade name: M-Wash Buffer (Concentrate)

(Contd. of page 4)

• 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 known to be hazardous to 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

1 5		
· 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)

[·] Waste treatment methods

[•] Recommendation: Smaller quantities can be disposed of with household waste.

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Trade name: M-Wash Buffer (Concentrate)

(Contd.	of	nage	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 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):

None of the ingredients is listed.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

None of the ingredients is listed.

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

None of the ingredients is listed.

· GHS label elements Void

· Hazard pictograms Void

· Signal word Void · Hazard statements Void

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Trade name: M-Wash Buffer (Concentrate)

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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 10/16/2023 • 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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Reviewed on 03/15/2021

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1 ming dule 10/10/2025	Reviewed on 05/15/2021
1 Identification	
· Product identifier	
· Trade name: M-Desulphonation Buffer	
• Article number: D5001-5, D5002-5, D5040-5 • Application of the substance / the mixture Laboratory Reagent	
 Details of the supplier of the safety data sheet Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A., Phone: +1(949) 679-1190 or +1(888) sds@zymoresearch.com 	882-9682,
 Information department: Product Safety Dept. Product safety department Emergency telephone number: During normal business hours (8 am to 5 pm Pacific Standard Time): +1 (949) 679 119 	0
2 Hazard(s) identification	
· Classification of the substance or mixture	
GHS02 Flame	
Flammable Liquids 3 H226 Flammable liquid and vapor	
GHS07	
Eye Irritation 2A H319 Causes serious eye irritation	l.
Specific Target Organ Toxicity - Single Exposure 3 H336 May cause drowsiness or di	zziness.
 Label elements GHS label elements The product is classified and labeled according to the Globally Ha Hazard pictograms GHS02, GHS07 Signal word Warning 	armonized System (GHS).
 Hazard-determining components of labeling: propan-2-ol Hazard statements Flammable liquid and vapor. 	
Causes serious eye irritation. May cause drowsiness or dizziness.	
· Precautionary statements	
Keep away from heat/sparks/open flames/hot surfaces No smoking. Ground/bond container and receiving equipment.	
Use explosion-proof electrical/ventilating/lighting/equipment.	
Use only non-sparking tools. Take precautionary measures against static discharge.	
rate predationary measures against state disentinge.	(Contd. on page 2)

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Trade name: M-Desulphonation Buffer

	(Contd. of page 1)
Avoid breathing dust/fume/gas/mist/vapors/spray	
Wash thoroughly after handling.	
Use only outdoors or in a well-ventilated area.	
Wear protective gloves/protective clothing/eye protection/face protection.	
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.	
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 ea	sy to do.
Continue rinsing.	
Call a poison center/doctor if you feel unwell.	
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 0 Reactivity = 0	
· HMIS-ratings (scale 0 - 4)	
HEALTH 2 Health $= 2$	
FIRE 3 Fire = 3	
$\frac{1}{\text{REACTIVITY}[0]} \text{ Reactivity} = 0$	
I Could they of	
· Other hazards	
· Results of PBT and vPvB assessment	
• <i>PBT</i> : Not applicable.	
• <i>vPvB</i> : Not applicable.	
3 Composition/information on ingredients	
• Chemical characterization: Mixtures	
• Description: Mixture of the substances listed below with nonhazardous additions.	

• Dangerous components:

	1	
CAS: 64-17-5	ethanol	≤30%
CAS: 67-63-0	propan-2-ol	≤30%

4 First-aid measures

- Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- · After eye contact:

Rinse opened eye for several minutes under running water. 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.

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Trade name: M-Desulphonation Buffer

- 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.
- 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.
- *Methods and material for containment and cleaning up:* Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). 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: 64-17-5	ethanol	1,800 ppm
CAS: 67-63-0	propan-2-ol	400 ppm
CAS: 1310-73-2	sodium hydroxide	0.5 mg/m ³
· PAC-2:		
CAS: 64-17-5	ethanol	3300* ppm
CAS: 67-63-0	propan-2-ol	2000* ppm
CAS: 1310-73-2	sodium hydroxide	5 mg/m ³
• PAC-3:		
CAS: 64-17-5	ethanol	15000* ppm
CAS: 67-63-0	propan-2-ol	12000** ppm
CAS: 1310-73-2	sodium hydroxide	50 mg/m ³

7 Handling and storage

· Handling:

- · Precautions for safe handling
- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- *Information about protection against explosions and fires:* Keep ignition sources away - Do not smoke. Protect against electrostatic charges.

(Contd. on page 4)

(Contd. of page 2)

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Trade name: M-Desulphonation Buffer

(Contd. of page 3)

- · Conditions for safe storage, including any incompatibilities
- Storage:

· Requirements to be met by storerooms and receptacles: No special requirements.

- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: Keep receptacle tightly sealed.
- · Specific end use(s) Laboratory reagent

8 Exposure controls/personal protection

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

Conu	roi parameters
· Com	ponents with limit values that require monitoring at the workplace:
CAS	: 64-17-5 ethanol
PEL	Long-term value: 1900 mg/m ³ , 1000 ppm
REL	Long-term value: 1900 mg/m ³ , 1000 ppm
TLV	Short-term value: 1000 ppm
	A3
CAS	: 67-63-0 propan-2-ol
PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm
	Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 400 ppm
	Long-term value: 200 ppm
	BEI, A4
· Ingre	edients with biological limit values:
CAS	: 67-63-0 propan-2-ol
	40 mg/L
	Medium: urine
	Time: end of shift at end of workweek
	Parameter: Acetone (background, nonspecific)
· Addii	tional information: The lists that were valid during the creation were used as basis.
· Expo	sure controls
· Perso	onal protective equipment:
· Gene	ral protective and hygienic measures:
Keep	away from foodstuffs, beverages and feed.
Imme	ediately remove all soiled and contaminated clothing.
Wash	hands before breaks and at the end of work.
Avoi	d contact with the ever

Avoid contact with the eyes. Avoid contact with the eyes and skin.

• Breathing equipment:

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

• Protection of hands:



Protective gloves

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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

9 Physical and chemical properties

General Information	
Appearance: Form:	Liquid
Form: Color:	Liquid Clear
Odor:	Alcohol-like
Odor: Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
Flash point:	>25 °C (>77 °F)
Flammability (solid, gaseous):	Flammable.
Auto igniting:	425 °C (797 °F)
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:	15 Vol %
Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
Density:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

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	(Conte	l. of page 5
• Solubility in / Miscibility with Water:	Fully miscible.	
· Partition coefficient (n-octano	ol/water): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
· Solvent content:		
Organic solvents:	58.0 %	
VOC content:	58.00 %	
	580.0 g/l / 4.84 lb/gal	
Solids content:	0.9 %	
• 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: 67-63-0 propan-2-ol

Oral	LD50	5,045 mg/kg (rat)
D	TDEO	10 000 // / 11

12,800 mg/kg (rabbit) Dermal LD50

Inhalative LC50/4 h 30 mg/l (rat)

Primary irritant effect:

· on the skin: No irritant effect.

· 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)	
CAS: 67-63-0 propan-2-ol	3
·NTP (National Toxicology Program)	
None of the ingredients is listed.	
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· 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:

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	UN1993
UN proper shipping name	
DOT	Flammable liquids, n.o.s. (Isopropanol, Ethanol)
IMDG	FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPY
	ALCOHOL), ETHANOL (ETHYL ALCOHOL))
IATA	FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPY
	ALCOHOL), ETHANOL)
Transport hazard class(es)	
DOT	
FLAMMABLE LIQUD	
V	
Class	3 Flammable liquids

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Trade name: M-Desulphonation Buffer

	(Contd. of page
Label	3
IMDG, IATA	
Class	3 Flammable liquids
Label	3
Packing group DOT, IMDG, IATA	III
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler code).	
EMS Number:	F-E, <u>S-E</u>
Stowage Category	A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 60 L
	On cargo aircraft only: 220 L
IMDG	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ISOPROPANOL (ISOPROPYL ALCOHOL), ETHANOL (ETHYL ALCOHOL)) 3, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
- · Sara
- · Section 355 (extremely hazardous substances):
- None of the ingredients is listed.
- · Section 313 (Specific toxic chemical listings):
- 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.

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· Proposition 65	page 8)
· 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: 64-17-5 ethanol	A3
CAS: 67-63-0 propan-2-ol	A4
• NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
 Hazard pictograms GHS02, GHS07 Signal word Warning Hazard-determining components of labeling: propan-2-ol 	
 <i>Hazard statements</i> Flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness. <i>Precautionary statements</i> Keep away from heat/sparks/open flames/hot surfaces No smoking. Ground/bond container and receiving equipment. 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. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. 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. 	
Dispose of contents/container in accordance with local/regional/national/international regulations.	age 10)

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

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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 10/16/2023
- 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 3: Flammable liquids – Category 3

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	
Product identifier	
Trade name: M-Elution Buffer	
Article number: D5001-6, D5002-6, D5007-6 Application of the substance / the mixture La	
Details of the supplier of the safety data shee Manufacturer/Supplier: Zymo Research Corp. 17062 Murphy Ave., Irvine, CA 92614, U.S.A sds@zymoresearch.com	et A., Phone: +1(949) 679-1190 or +1(888) 882-9682,
<i>Information department:</i> Product Safety Dep <i>Emergency telephone number:</i> During normal business hours (8 am to 5 pm F	
Label elements GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system:	
NFPA ratings (scale 0 - 4)	
Health $= 0$ Fire $= 0$	
$\mathbf{U} = \mathbf{U}$ Reactivity = 0	
$\mathbf{U} \mathbf{U} \text{Reactivity} = 0$ $HMIS\text{-ratings (scale 0 - 4)}$	
▼ ↓	

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.

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

• PAC-1:		
CAS: 1185-53-	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	12 mg/m ³
CAS: 6381-92-6	5 Edetate Disodium, Dihydrate	30 mg/m ³
· PAC-2:		
CAS: 1185-53-	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	130 mg/m ³
CAS: 6381-92-6	5 Edetate Disodium, Dihydrate	330 mg/m ³
· PAC-3:		
CAS: 1185-53-1	2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride	790 mg/m ³
		(Contd. on page 3

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Trade name: M-Elution Buffer

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	

(Contd. of page 2) $2,000 \text{ mg/m}^3$

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Trade name: M-Elution Buffer

	(Contd. of p	age
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/wat	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	<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 10/16/2023 · 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