



**ZYMO RESEARCH**

*The Beauty of Science is to Make Things Simple*

02/05/2016

**Kit Components**

Product code	Description
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<b>D4041</b>	<b>Zyppy-96 Plasmid Miniprep, 2 x 96 Preps.</b>
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Components:

D4041-1-30	Deep Blue Lysis Buffer
D4041-4-100	Neutralization/Clearing Buffer
D4036-3-6	Endo-Wash Buffer
D4036-4-6	Zyppy Wash Buffer
D4036-5-5	Zyppy Elution Buffer



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 02/02/2016

**1 Identification**

- **Product identifier**
- **Trade name:** Deep Blue Lysis Buffer
- **Article number:** D4041-1-30, D4041-1-48
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Zymo Research Corp.  
17062 Murphy Ave.  
Irvine, CA 92614  
USA  
Phone: 1-949-679-1190 or 1-888-882-9682  
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:** During normal business hours: +1 (949) 679 1190

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **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 dusts or mists.  
Wear eye protection / face protection.  
Wash thoroughly after handling.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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).

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IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Wash contaminated clothing before reuse.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 3
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 3
Fire = 0
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

Table with 3 columns: CAS number, substance name, and percentage. Rows include sodium dodecyl sulphate (CAS: 151-21-3, ≤10%) and sodium hydroxide (CAS: 1310-73-2, ≤2.5%).

4 First-aid measures

Description of first aid measures

- General information: Immediately remove any clothing soiled by the product.
After inhalation: In case of unconsciousness place patient stably in side position for transportation.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing: 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.



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**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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 item 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.

**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)** No further relevant information available.

**8 Exposure controls/personal protection**

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

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· **Control parameters**

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

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

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

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

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**Trade name: Deep Blue Lysis Buffer**

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**9 Physical and chemical properties**

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

**· General Information**

**· Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Blue
<b>· Odor:</b>	Nearly odorless
<b>· Odour threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.

**· Flash point:** Not applicable.

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

**· Ignition temperature:**

**Decomposition temperature:** Not determined.

**· Auto igniting:** Product is not selfigniting.

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

**· Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**· Vapor pressure:** Not determined.

**· Density:** Not determined.

**· Relative density** Not determined.

**· Vapour density** Not determined.

**· Evaporation rate** Not determined.

**· Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix.

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

**· Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

**· Solvent content:**

**Organic solvents:** 0.0 %

**Solids content:** 2.5 %

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

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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: 1310-73-2 sodium hydroxide

Oral LD50 2000 mg/kg (rat)

- 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.

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- Additional ecological information:
General notes: Water hazard class 2 (Self-assessment): hazardous for water
Results of PBT and vPvB assessment: PBT: Not applicable, vPvB: Not applicable, Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number, DOT, IMDG, IATA: UN3265
UN proper shipping name, DOT, IMDG, IATA: Corrosive liquid, acidic, organic, n.o.s. (Sodium hydroxide)
Transport hazard class(es), DOT, Class, Label: 8 Corrosive substances
IMDG, IATA, Class: 8 Corrosive substances

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Table with 2 columns: Hazard/Property and Value. Rows include Label (8), Packing group (II), Environmental hazards (Not applicable), Special precautions for user (Warning: Corrosive substances), Transport in bulk (Not applicable), Transport/Additional information (DOT, Quantity limitations), IMDG (Limited and Excepted quantities), and UN Model Regulation (UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (SODIUM HYDROXIDE), 8, II).

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
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 ingredients are 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.

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**· 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 established by ACGIH)**

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 dusts or mists.

Wear eye protection / face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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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** 02/05/2016 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

US



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acc. to OSHA HCS

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## 1 Identification

- **Product identifier**
- **Trade name:** Neutralization/Clearing Buffer
- **Article number:** D4041-4-100, D4041-4-200
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Zymo Research Corp.  
17062 Murphy Ave.  
Irvine, CA 92614  
USA  
Phone: 1-949-679-1190 or 1-888-882-9682  
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:** During normal business hours: +1 (949) 679 1190

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.

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



GHS07

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
guanidinium chloride
- **Hazard statements**  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.
- **Precautionary statements**  
Wear protective gloves.  
Wear eye protection / face protection.  
Wash thoroughly after handling.

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Do not eat, drink or smoke when using this product.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
If swallowed: Call a poison center/doctor if you feel unwell.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Rinse mouth.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

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

Dangerous components:

Table with 3 columns: CAS number, Component name, and Concentration. Row 1: CAS: 50-01-1, guanidinium chloride, <=25%. Row 2: Trade Secret 001-4036, <=5%.

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

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

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**Trade name: Neutralization/Clearing Buffer**

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

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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 item 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.

### 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)** No further relevant information available.

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Trade name: Neutralization/Clearing Buffer

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8 Exposure controls/personal protection

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

Control parameters

Components with limit values that require monitoring at the workplace:

Trade Secret 001-4036

PEL Long-term value: 25 mg/m³, 10 ppm

REL Short-term value: 37 mg/m³, 15 ppm

Long-term value: 25 mg/m³, 10 ppm

TLV Short-term value: 37 mg/m³, 15 ppm

Long-term value: 25 mg/m³, 10 ppm

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

Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

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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Trade name: Neutralization/Clearing Buffer

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Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

- Form: Suspension
Color: Yellow
Odor: Nearly odorless
Odour 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.

Ignition temperature: 485 °C (905 °F)

Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

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

Explosion limits:

- Lower: Not determined.
Upper: Not determined.

Vapor pressure: Not determined.

- Density: Not determined.
Relative density: Not determined.
Vapour density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

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

Viscosity:

Dynamic: Not determined.

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Table with 2 columns: Property (Kinematic, Solvent content, Organic solvents, VOC content, Solids content, Other information) and Value (Not determined, 5.0%, 5.0%, 50.0 g/l / 0.42 lb/gl, 25.0%, 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:

Table with 2 columns: LD/LC50 values that are relevant for classification and CAS: 50-01-1 guanidinium chloride. Row 1: Oral LD50 475 mg/kg (rat)

- Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

- Carcinogenic categories

Table with 2 columns: IARC (International Agency for Research on Cancer) and Value: None of the ingredients is listed.

Table with 2 columns: NTP (National Toxicology Program) and Value: 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:
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:
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· Uncleaned packagings:
· Recommendation: Disposal must be made according to official regulations.

14 Transport information

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

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Trade name: Neutralization/Clearing Buffer

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· 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
· 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 ingredients are 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 established by ACGIH)

None of the ingredients is listed.

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

None of the ingredients is listed.

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

· Hazard pictograms



GHS07

(Contd. on page 9)

**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 02/03/2016

**Trade name: Neutralization/Clearing Buffer**

(Contd. of page 8)

- **Signal word** Warning
- **Hazard-determining components of labeling:**
  - guanidinium chloride
- **Hazard statements**
  - Harmful if swallowed.
  - Causes skin irritation.
  - Causes serious eye irritation.
- **Precautionary statements**
  - Wear protective gloves.
  - Wear eye protection / face protection.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Specific treatment (see on this label).
  - If swallowed: Call a poison center/doctor if you feel unwell.
  - If skin irritation occurs: Get medical advice/attention.
  - If eye irritation persists: Get medical advice/attention.
  - Rinse mouth.
  - If on skin: Wash with plenty of water.
  - Take off contaminated clothing and wash it before reuse.
  - 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** 02/05/2016 / -
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport 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
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - 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)

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**ZYMO RESEARCH**

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**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 02/05/2016

Reviewed on 02/03/2016

**Trade name: Neutralization/Clearing Buffer**

(Contd. of page 9)

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  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

US



**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 12/03/2015

**1 Identification**

- **Product identifier**
- **Trade name:** Endo-Wash Buffer
- **Article number:** D4036-3-6, D4036-3-15, D4036-3-30, D4036-3-60, D4036-3-120, D4036-3-160, D4036-3-240
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Zymo Research Corp.  
17062 Murphy Ave.  
Irvine, CA 92614  
USA  
Phone: 1-949-679-1190 or 1-888-882-9682  
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:** During normal business hours: +1 (949) 679 1190

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
 Skin Irrit. 2 H315 Causes skin irritation.  
 Eye Irrit. 2A H319 Causes serious eye irritation.  
 STOT SE 3 H336 May cause drowsiness or dizziness.

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



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
guanidinium chloride  
propan-2-ol
- **Hazard statements**  
Highly flammable liquid and vapor.

(Contd. on page 2)



**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 12/03/2015

**Trade name: Endo-Wash Buffer**

(Contd. of page 1)

Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause drowsiness or dizziness.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Wear protective gloves / eye protection / face protection.  
Ground/bond container and receiving equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
Specific treatment (see on this label).  
If swallowed: Call a poison center/doctor if you feel unwell.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Rinse mouth.  
In case of fire: Use for extinction: CO2, powder or water spray.  
Take off contaminated clothing and wash it before reuse.  
Store locked up.  
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.

**Classification system:**

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



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



**Other hazards**

**Results of PBT and vPvB assessment**

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



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 2)

3 Composition/information on ingredients

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

Dangerous components:

Table with 2 columns: CAS number and substance name, and a percentage column. Rows include guanidinium chloride (≤50%) and propan-2-ol (≤50%).

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: In case of unconsciousness place patient stably in side position for transportation.
After skin contact: Immediately wash with water and soap and rinse thoroughly.
After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: Immediately call a doctor.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
Suitable extinguishing agents: CO2, sand, extinguishing powder. Do not use water.
For safety reasons unsuitable extinguishing agents: Water with full jet
Advice for firefighters
Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
Environmental precautions: Do not allow product to reach sewage system or any water course. Inform respective authorities in case of seepage into water course or sewage system. 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 item 13. Ensure adequate ventilation.

(Contd. on page 4)





Safety Data Sheet acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 3)

- Do not flush with water or aqueous cleansing agents
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.

7 Handling and storage

- Handling:
Precautions for safe handling
Information about protection against explosions and fires:
Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles:
Information about storage in one common storage facility:
Further information about storage conditions:
Specific end use(s)

8 Exposure controls/personal protection

- Additional information about design of technical systems:
Control parameters

Components with limit values that require monitoring at the workplace:

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

Table with 2 columns: Limit Value Type and Value. Rows include PEL, REL, and TLV/BEI for propan-2-ol.

Ingredients with biological limit values:

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

Table with 2 columns: Limit Value Type and Value. Row includes BEI for propan-2-ol.

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

(Contd. on page 5)



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

**Trade name: Endo-Wash Buffer**

(Contd. of page 4)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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



Tightly sealed goggles

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Clear
Odor:	Alcohol-like
Odour threshold:	Not determined.
- **pH-value:** Not determined.
- **Change in condition**

Melting point/Melting range:	Undetermined.
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(Contd. on page 6)



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 5)

<b>Boiling point/Boiling range:</b>	82 °C (180 °F)
· <b>Flash point:</b>	13 °C (55 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	425 °C (797 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	2.0 Vol %
<b>Upper:</b>	12.0 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	43 hPa (32 mm Hg)
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	50.0 %
<b>VOC content:</b>	50.0 %
	500.0 g/l / 4.17 lb/gl
<b>Solids content:</b>	40.0 %
· <b>Other information</b>	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.

(Contd. on page 7)

US



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 6)

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)

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

Oral LD50 5045 mg/kg (rat)

Dermal LD50 12800 mg/kg (rabbit)

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

- Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.

Additional toxicological information:

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

Carcinogenic categories

IARC (International Agency for Research on Cancer)

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

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.
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.

(Contd. on page 8)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 7)

- Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

- Waste treatment methods
Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

Table with 2 columns: Property and Value. Rows include UN-Number (UN1219), UN proper shipping name (Isopropanol mixture), Transport hazard class(es) (3 Flammable liquids), IMDG, IATA (3 Flammable liquids), Packing group (II), and Environmental hazards (Not applicable).

(Contd. on page 9)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 8)

Table with 2 columns: Property and Value. Rows include EMS Number (F-E,S-D), Transport in bulk (Not applicable), DOT (On passenger aircraft/rail: 5 L, On cargo aircraft only: 60 L), IMDG (1L, Code: E2, Maximum net quantity per inner packaging: 30 ml, Maximum net quantity per outer packaging: 500 ml), and UN Model Regulation (UN 1219 ISOPROPANOL MIXTURE, 3, II).

15 Regulatory information

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

Table with 2 columns: Regulation and Status. Rows include Section 355 (None of the ingredients is listed), Section 313 (CAS: 67-63-0 propan-2-ol), TSCA (All ingredients are listed), Proposition 65 (None of the ingredients is listed), 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 (None of the ingredients is listed), and TLV (CAS: 67-63-0 propan-2-ol, A4).

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Safety Data Sheet
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 12/03/2015

Trade name: Endo-Wash Buffer

(Contd. of page 9)

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

None of the ingredients is listed.

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

· Hazard pictograms



GHS02 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

guanidinium chloride
propan-2-ol

· Hazard statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.

· Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves / eye protection / face protection.
Ground/bond container and receiving equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
If swallowed: Call a poison center/doctor if you feel unwell.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Rinse mouth.
In case of fire: Use for extinction: CO2, powder or water spray.
Take off contaminated clothing and wash it before reuse.
Store locked up.
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.

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**ZYMO RESEARCH**

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**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 12/03/2015

**Trade name: Endo-Wash Buffer**

(Contd. of page 10)

· **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** 02/05/2016 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

US





**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 02/02/2016

**1 Identification**

- **Product identifier**
- **Trade name:** Zyppy Wash Buffer
- **Article number:** D4036-4-6, D4036-4-12, D4036-4-24, D4036-4-48
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Zymo Research Corp.  
17062 Murphy Ave.  
Irvine, CA 92614  
USA  
Phone: 1-949-679-1190 or 1-888-882-9682  
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:** During normal business hours: +1 (949) 679 1190

**2 Hazard(s) identification**

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

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



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



- **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.

(Contd. on page 2)



**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 02/02/2016

**Trade name: Zippy Wash Buffer**

(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:** Rinse opened eye for several minutes under running water.
- **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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

#### **6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
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.

#### **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.

(Contd. on page 3)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 02/02/2016

Trade name: Zypzy Wash Buffer

(Contd. of page 2)

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

8 Exposure controls/personal protection

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

9 Physical and chemical properties

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

(Contd. on page 4)



Safety Data Sheet
acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 02/02/2016

Trade name: Zyppy Wash Buffer

(Contd. of page 3)

Table with 2 columns: Property and Value. Rows include Flash point, Flammability, Ignition temperature, Decomposition temperature, Auto igniting, Danger of explosion, Explosion limits, Vapor pressure, Density, Solubility in Water, Partition coefficient, Viscosity, Solvent content, Solids content, and Other information.

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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**Safety Data Sheet**  
*acc. to OSHA HCS*

Printing date 02/05/2016

Reviewed on 02/02/2016

**Trade name: Zyppy Wash Buffer**

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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:** Generally not hazardous for water

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

**13 Disposal considerations**

· **Waste treatment methods**

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

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Safety Data Sheet
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Printing date 02/05/2016

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Trade name: Zippy Wash Buffer

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- Uncleaned packagings:
· Recommendation: Disposal must be made according to official regulations.

14 Transport information

Table with 2 columns: Description and Regulation Status. Rows include UN-Number, DOT, ADN, IMDG, IATA; UN proper shipping name; Transport hazard class(es); Packing group; Environmental hazards; Special precautions for user; Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code; UN Model Regulation.

15 Regulatory information

Table with 2 columns: Regulation/Act and Status. Rows include Safety, health and environmental regulations; Section 355; Section 313; TSCA; Proposition 65; Chemicals known to cause cancer; Chemicals known to cause reproductive toxicity for females; Chemicals known to cause reproductive toxicity for males.

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Reviewed on 02/02/2016

**Trade name: Zyppe Wash Buffer**

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**· 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 established by ACGIH)**

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** 02/05/2016 / -**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative



## Safety Data Sheet acc. to OSHA HCS

Printing date 02/05/2016

Reviewed on 02/02/2016

### 1 Identification

- **Product identifier**
- **Trade name:** Zyppy Elution Buffer
- **Article number:** D4036-5-5, D4036-5-10, D4036-5-20, D4036-5-30, D4036-5-60, D4036-5-100
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Zymo Research Corp.  
17062 Murphy Ave.  
Irvine, CA 92614  
USA  
Phone: 1-949-679-1190 or 1-888-882-9682  
sds@zymoresearch.com
- **Information department:** Product safety department
- **Emergency telephone number:** During normal business hours: +1 (949) 679 1190

### 2 Hazard(s) identification

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

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



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



- **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.

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**Trade name: Zyppey Elution Buffer**

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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:** Rinse opened eye for several minutes under running water.
- **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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**  
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.

**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.

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Trade name: Zyppey Elution Buffer

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

8 Exposure controls/personal protection

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

9 Physical and chemical properties

- Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Color: Clear
Odor: Odorless
Odour 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: Zyppy Elution Buffer

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Table with 2 columns: Property and Value. Rows include Flash point, Flammability, Ignition temperature, Decomposition temperature, Auto igniting, Danger of explosion, Explosion limits, Vapor pressure, Density, Solubility in Water, Partition coefficient, Viscosity, Solvent content, Solids content, and Other information.

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: Zyppe Elution Buffer

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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: Generally not hazardous for water

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods

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

(Contd. on page 6)



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Trade name: Zypzy Elution Buffer

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- Uncleaned packagings:
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Table with 2 columns: Description and Regulation status. Rows include UN-Number, DOT, ADN, IMDG, IATA; UN proper shipping name; Transport hazard class(es); Packing group; Environmental hazards; Special precautions for user; Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code; UN Model Regulation.

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(Contd. of page 6)

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

None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**

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**

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