



**ZYMO RESEARCH**

*The Beauty of Science is to Make Things Simple*

04/26/2024

**Kit Components**

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

|              |  |
|--------------|--|
| <b>T2001</b> | <b>Frozen-EZ Yeast Transformation II</b> |
|--------------|--|

Components:

|                      |
|----------------------|
| Frozen-EZ Solution 1 |
| Frozen-EZ Solution 2 |
| Frozen-EZ Solution 3 |



## Safety Data Sheet acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

### 1 Identification

- **Product identifier**
- **Trade name:** *Frozen-EZ Solution 1*
- **Article number:** T2002
- **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,  
sds@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

### 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: Frozen-EZ Solution 1

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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:**  
CO<sub>2</sub>, 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: 1185-53-1 | 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride | 12 mg/m <sup>3</sup> |
| CAS: 6381-92-6 | Edetate Disodium, Dihydrate                            | 30 mg/m <sup>3</sup> |

· **PAC-2:**

|                |  |                       |
|----------------|--|-----------------------|
| CAS: 1185-53-1 | 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride | 130 mg/m <sup>3</sup> |
| CAS: 6381-92-6 | Edetate Disodium, Dihydrate                            | 330 mg/m <sup>3</sup> |

· **PAC-3:**

|                |  |                       |
|----------------|--|-----------------------|
| CAS: 1185-53-1 | 2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride | 790 mg/m <sup>3</sup> |
|----------------|--|-----------------------|

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Trade name: **Frozen-EZ Solution 1**

CAS: 6381-92-6 | Edetate Disodium, Dihydrate

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2,000 mg/m<sup>3</sup>

## 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** See Section 8 for information
- **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

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Trade name: Frozen-EZ Solution 1

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|   |   |
|---|---|
| · <b>Odor threshold:</b>  | Not determined.                               |
| · <b>pH-value:</b>  | Not determined.                               |
| · <b>Change in condition</b><br><b>Melting point/Melting range:</b> | Undetermined.                                 |
| <b>Boiling point/Boiling range:</b>                                 | Undetermined.                                 |
| · <b>Flash point:</b>   | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>                             | Not applicable.                               |
| · <b>Decomposition temperature:</b>                                 | Not determined.                               |
| · <b>Ignition temperature:</b>                                      | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                                       | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>  |   |
| <b>Lower:</b>   | Not Applicable                                |
| <b>Upper:</b>   | Not Applicable                                |
| · <b>Vapor pressure:</b>  | Not determined.                               |
| · <b>Density:</b>   | Not determined.                               |
| · <b>Relative density</b>   | Not determined.                               |
| · <b>Vapor density</b>  | Not determined.                               |
| · <b>Evaporation rate</b>   | Not determined.                               |
| · <b>Solubility in / Miscibility with</b><br><b>Water:</b>          | Fully miscible.                               |
| · <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>VOC content:</b>   | 0.00 %<br>0.0 g/l / 0.00 lb/gal               |
| <b>Solids content:</b>  | 2.0 %   |
| · <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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

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Trade name: Frozen-EZ Solution 1

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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 accordance with local/regional/national and international recommendations.

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

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Trade name: Frozen-EZ Solution 1

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## 14 Transport information

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

## 15 Regulatory information

|   |
|---|
| · <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b><br>No further relevant information available. |
| · <b>Sara</b>   |
| · <b>Section 355 (extremely hazardous substances):</b><br>None of the ingredients is listed.  |
| · <b>Section 313 (Specific toxic chemical listings):</b><br>None of the ingredients is listed.  |
| · <b>TSCA (Toxic Substances Control Act):</b><br>CAS: 1185-53-1   2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride   ACTIVE                     |
| · <b>Hazardous Air Pollutants</b><br>None of the ingredients is listed.   |
| · <b>Proposition 65</b>   |
| · <b>Chemicals known to cause cancer:</b><br>None of the ingredients is listed.   |
| · <b>Chemicals known to cause reproductive toxicity for females:</b><br>None of the ingredients is listed.  |
| · <b>Chemicals known to cause reproductive toxicity for males:</b><br>None of the ingredients is listed.  |
| · <b>Chemicals known to cause developmental toxicity:</b><br>None of the ingredients is listed.   |
| · <b>Carcinogenic categories</b>  |
| · <b>EPA (Environmental Protection Agency)</b><br>None of the ingredients is listed.  |

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Trade name: **Frozen-EZ Solution 1**

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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** 04/26/2024 / -

- **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





# Safety Data Sheet

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Printing date 04/26/2024

Reviewed on 03/15/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Frozen-EZ Solution 2
- **Article number:** T2003
- **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,  
sds@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

## 2 Hazard(s) identification

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

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



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

|            |   |                |
|------------|---|----------------|
| HEALTH     | 0 | Health = 0     |
| FIRE       | 1 | Fire = 1       |
| REACTIVITY | 0 | Reactivity = 0 |

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

## 3 Composition/information on ingredients

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

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Trade name: Frozen-EZ Solution 2

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**· Dangerous components:**

|                                 |      |
|---------------------------------|------|
| CAS: 67-68-5 dimethyl sulfoxide | ≤10% |
|---------------------------------|------|

## 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.  
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:**  
CO<sub>2</sub>, 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:**

|                                 |         |
|---------------------------------|---------|
| CAS: 67-68-5 dimethyl sulfoxide | 150 ppm |
|---------------------------------|---------|

**· PAC-2:**

|                                 |         |
|---------------------------------|---------|
| CAS: 67-68-5 dimethyl sulfoxide | 290 ppm |
|---------------------------------|---------|

**· PAC-3:**

|                                 |           |
|---------------------------------|-----------|
| CAS: 67-68-5 dimethyl sulfoxide | 1,800 ppm |
|---------------------------------|-----------|

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Trade name: Frozen-EZ Solution 2

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## 7 Handling and storage

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters** See Section 8 for information
- **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.

|  |
|--|
| <b>CAS: 67-68-5 dimethyl sulfoxide</b> |
|--|

|                               |
|-------------------------------|
| WEEL Long-term value: 250 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:**  
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:** Yellow tint
- **Odor:** Fish-like

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Trade name: Frozen-EZ Solution 2

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|   |   |
|---|---|
| · <b>Odor threshold:</b>                          | Not determined.                               |
| · <b>pH-value:</b>                                | Not determined.                               |
| · <b>Change in condition</b>                      |   |
| <b>Melting point/Melting range:</b>               | Undetermined.                                 |
| <b>Boiling point/Boiling range:</b>               | Undetermined.                                 |
| · <b>Flash point:</b>                             | 100 °C (212 °F)                               |
| · <b>Flammability (solid, gaseous):</b>           | Not applicable.                               |
| · <b>Auto igniting:</b>                           | 150 °C (302 °F)                               |
| · <b>Decomposition temperature:</b>               | Not determined.                               |
| · <b>Ignition temperature:</b>                    | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| <b>Lower:</b>                                     | Not Applicable                                |
| <b>Upper:</b>                                     | Not Applicable                                |
| · <b>Vapor pressure:</b>                          | Not determined.                               |
| · <b>Density:</b>                                 | Not determined.                               |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                               |
| · <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>                          | 7.0 %   |
| <b>VOC content:</b>                               | 7.00 %  |
|   | 70.0 g/l / 0.58 lb/gal                        |
| <b>Solids content:</b>                            | 20.0 %  |
| · <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.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US

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Trade name: Frozen-EZ Solution 2

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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:** Not hazardous for water.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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

## 13 Disposal considerations

- **Waste treatment methods**

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

- **Uncleaned packagings:**

- **Recommendation:**

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

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

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Trade name: Frozen-EZ Solution 2

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## 14 Transport information

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

## 15 Regulatory information

|   |
|---|
| · <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b><br>No further relevant information available. |
| · <b>Sara</b>   |
| · <b>Section 355 (extremely hazardous substances):</b><br>None of the ingredients is listed.  |
| · <b>Section 313 (Specific toxic chemical listings):</b><br>None of the ingredients is listed.  |
| · <b>TSCA (Toxic Substances Control Act):</b><br>All components have the value ACTIVE.  |
| · <b>Hazardous Air Pollutants</b><br>None of the ingredients is listed.   |
| · <b>Proposition 65</b>   |
| · <b>Chemicals known to cause cancer:</b><br>None of the ingredients is listed.   |
| · <b>Chemicals known to cause reproductive toxicity for females:</b><br>None of the ingredients is listed.  |
| · <b>Chemicals known to cause reproductive toxicity for males:</b><br>None of the ingredients is listed.  |
| · <b>Chemicals known to cause developmental toxicity:</b><br>None of the ingredients is listed.   |
| · <b>Carcinogenic categories</b>  |
| · <b>EPA (Environmental Protection Agency)</b><br>None of the ingredients is listed.  |

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

Trade name: **Frozen-EZ Solution 2**

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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** 04/26/2024 / -

- **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 &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit



## Safety Data Sheet acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

### 1 Identification

- **Product identifier**
- **Trade name:** Frozen-EZ Solution 3
- **Article number:** T2004
- **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,  
sds@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

### 2 Hazard(s) identification

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

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



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

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

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

### 3 Composition/information on ingredients

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

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Trade name: Frozen-EZ Solution 3

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**· Dangerous components:**

CAS: 25322-68-3 Polyethylene glycol

≤45%

## 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.

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:**

 CO<sub>2</sub>, 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 30 mg/m<sup>3</sup>.

**· PAC-2:**

 All components have the value 1,300 mg/m<sup>3</sup>.

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acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

Trade name: **Frozen-EZ Solution 3**

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· **PAC-3:**All components have the value 7,700 mg/m<sup>3</sup>.

## 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** See Section 8 for information
- **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.

CAS: 25322-68-3 Polyethylene glycol

|      |  |
|------|--|
| WEEL | Long-term value: 10 mg/m <sup>3</sup><br>(H); MW>200 |
|------|--|

- **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.

US

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# Safety Data Sheet

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Trade name: Frozen-EZ Solution 3

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## 9 Physical and chemical properties

|   |   |
|---|---|
| · <b>Information on basic physical and chemical properties</b>    |   |
| · <b>General Information</b>                                      |   |
| · <b>Appearance:</b>  |   |
| · <b>Form:</b>  | Viscous                                       |
| · <b>Color:</b>   | Clear   |
| · <b>Odor:</b>  | Odorless                                      |
| · <b>Odor threshold:</b>  | Not determined.                               |
| · <b>pH-value:</b>  | Not determined.                               |
| · <b>Change in condition</b>                                      |   |
| · <b>Melting point/Melting range:</b>                             | Undetermined.                                 |
| · <b>Boiling point/Boiling range:</b>                             | Undetermined.                                 |
| · <b>Flash point:</b>   | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>                           | Not applicable.                               |
| · <b>Decomposition temperature:</b>                               | Not determined.                               |
| · <b>Ignition temperature:</b>                                    | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>  |   |
| · <b>Lower:</b>   | Not Applicable                                |
| · <b>Upper:</b>   | Not Applicable                                |
| · <b>Vapor pressure:</b>  | Not determined.                               |
| · <b>Density:</b>   | Not determined.                               |
| · <b>Relative density</b>   | Not determined.                               |
| · <b>Vapor density</b>  | Not determined.                               |
| · <b>Evaporation rate</b>   | Not determined.                               |
| · <b>Solubility in / Miscibility with</b>                         |   |
| · <b>Water:</b>   | Fully miscible.                               |
| · <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>VOC content:</b>   | 0.00 %<br>0.0 g/l / 0.00 lb/gal               |
| · <b>Solids content:</b>  | 0.0 %   |
| · <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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

Trade name: **Frozen-EZ Solution 3**

(Contd. of page 4)

- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

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

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

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

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **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 accordance with local/regional/national and international recommendations.

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Printing date 04/26/2024

Reviewed on 03/15/2021

Trade name: Frozen-EZ Solution 3

(Contd. of page 5)

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

## 14 Transport information

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

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/26/2024

Reviewed on 03/15/2021

**Trade name: Frozen-EZ Solution 3**

(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.

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Phone: 1-949-679-1190 or 1-888-882-9682

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TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit