

## Kit

<b>Product name</b>	<b>Catalog No.</b>	<b>Quantity</b>
PUREfrefx <sup>®</sup> 1.0	PF001-0.25-EX	250 µL for reaction
	PF001-2ML-EX	2 mL for reaction
	PF001-10ML-EX	5x 2 mL for reaction

## Contents

<b>Product name</b>	<b>Product No.</b>
Solution I	PF001-11
Solution II	PF001-21
Solution III	PF001-3A1
DHFR DNA	PF001-D2

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## Section 1: Identification

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### Product identifier

**Product name:** Solution I  
**Product code:** PF001-11

### Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses of the product:

This product is for research and development only.

### Details of the supplier of the safety data sheet

**Name:** GeneFrontier Corporation  
**Address:** SHARP Kashiwa Building 4F, 273-1  
Kashiwa, Kashiwa-shi, Chiba 277-0005,  
Japan  
**Telephone number:** +81-4-7137-6301  
**Fax number:** +81-4-7132-7530  
**e-mail address:** purefrex@genefrontier.com  
**Emergency telephone number:** +81-4-7137-6301

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## Section 2: Hazard(s) identification

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### GHS classification and label elements of the product

Classification according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Classification of the substance or mixture:** Not classified to GHS classification.

Labelling according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Label elements:** No GHS label element.  
No Signal word.

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## Section 3: Composition/information on ingredients

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**Mixture/Substance selection:** Mixture

Ingredient name	CAS No.	Content (%)
Buffer	Trade secret	0.1 - 1
Mineral A	Trade secret	1 - 5
Mineral B	Trade secret	0.1 - 1
Mineral C	Trade secret	1 - 5
Mineral D	Trade secret	0.1 - 2
Nucleotide A	Trade secret	0.1 - 1
Nucleotide B	Trade secret	0.1 - 1

Note: The figures shown above are not the specifications of the product.

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

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#### **Section 4: First-aid measures**

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##### **Descriptions of first-aid measures**

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

##### **Most important symptoms/effects, both acute and delayed**

Specific information on symptom and effect are unknown.

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

Information on indication of any immediate medical attention and special treatment needed is not available.

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#### **Section 5: Fire-fighting measures**

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##### **Extinguishing media**

###### **Suitable extinguishing media:**

Use appropriate extinguishing media suitable for surrounding facilities.

###### **Unsuitable extinguishing media:**

Unsuitable extinguishing media data is not available.

##### **Specific hazards arising from the substance or mixture**

No information available

##### **Advice for firefighters**

###### **Specific fire-fighting measures:**

Evacuate non-essential personnel to safe area.

###### **Special protective equipment and precautions for fire-fighters:**

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## **Section 6: Accidental release measures**

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

Keep unauthorized personnel away. Wear proper protective equipment.

### **Environmental precautions**

Prevent spills from entering sewers, watercourses, or low areas.  
Do not wash away into sewers or waterway.

### **Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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## **Section 7: Handling and storage**

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### **Precautions for safe handling**

#### **Preventive measures:**

Avoid contact with skin.  
Avoid contact with eyes.

#### **Safety treatments:**

Use personal protective equipment as required.

#### **Advice on general occupational hygiene:**

Do not get in eyes, on skin, or on clothing.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

### **Storage**

#### **Conditions for safe storage:**

Keep container tightly closed.  
Store at temperatures not exceeding designated temperature.  
Storage temperature upper limit: -20 °C/ -4 °F

#### **Container and packaging materials for safe handling:**

No information available.

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## Section 8: Exposure controls/personal protection

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### Control parameters

Adopted value

Adopted value in ACGIH is not available.

OSHA-PEL

OSHA-PEL data is not available.

NIOSH-REL

NIOSH-REL data is not available.

### Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures, such as personal protective equipment:

Hand protection                      Wear protective gloves.

Recommended material(s): impermeable or chemical resistant rubber.

Eye protection                      Wear safety glasses with side-shields or chemical safety goggles.

Skin and body protection              Wear protective clothing.

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## Section 9: Physical and chemical properties

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### Information on basic physical and chemical properties

Physical state: Liquid

Colour: Clear

Odour: None

Odour threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 7-8

Kinematic viscosity data is not available.

Solubility

Solubility in water: Soluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density data is not available.

Relative vapor density (Air=1) data is not available.  
Particle characteristics: Not applicable.  
Evaporation rate data is not available.

**Other information**

No information available.

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**Section 10: Stability and reactivity**

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**Reactivity**

Reactivity data is not available.

**Chemical stability**

Stable under normal storage/handling conditions (see Section 7).

**Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

**Conditions to avoid**

Conditions to avoid data is not available.

**Incompatible materials**

Incompatible materials data is not available.

**Hazardous decomposition products**

Hazardous decomposition products data is not available.

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## Section 11: Toxicological information

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### Information on toxicological effects

Acute toxicity	
Acute toxicity (Oral)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Dermal)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Inhalation)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Irritant properties	
Skin corrosion/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Serious eye damage/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Sensitization	
Respiratory sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Skin sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Germ cell mutagenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Carcinogenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Reproductive toxicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Specific target organ toxicity (STOT)	
STOT-single exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Aspiration hazard	Classification of the product is not possible (Insufficient data available or no data available).

available or no data available).  
Data for components of the product is not available.

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## Section 12: Ecological information

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### Toxicity:

Aquatic toxicity

Classification of the product is not possible (Insufficient data available or no data available).  
Data for components of the product is not available.

### Persistence and degradability:

Persistence and degradability data is not available.

### Bioaccumulative potential:

Bioaccumulative potential data is not available.

### Mobility in soil:

Mobility in soil data is not available.

### Other adverse effects:

Ozone depleting chemical data is not available.

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## Section 13: Disposal considerations

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Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

### Waste treatment methods:

Dispose of contents/container in accordance with local/national regulation.  
Do not dump into sewers, on the ground or into any body of water.

### Contaminated packing:

Dispose of container after using the contents completely.



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**Section 14: Transport information**

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**UN number, UN CLASS**

UN No. or ID No.	Not applicable.
UN Proper Shipping Name	Not applicable.
Class or division (Transport hazard class)	Not applicable.
Packing group	Not applicable.

**IMDG Code (International Maritime Dangerous Goods Regulations)**

Not applicable.

**IATA Dangerous Goods Regulations**

Not applicable.

**Environmental hazards**

MARPOL Annex III - Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no

**Special precautions for user**

Not applicable.

**Maritime transport in bulk according to IMO instruments**

This product is not intended to be carried in bulk.

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**Section 15: Regulatory information**

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**Safety, health and environmental regulations/legislation specific for the substance or mixture****U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory  
Buffer; Mineral B; Mineral D; Nucleotide A

**Superfund Amendments and Reauthorizations Act (SARA), Title III**

This product contains no chemicals subjected to reporting levels established by SARA Title III, Section 313.

**California proposition 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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## Section 16: Other information

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### GHS classification and labelling:

Not classified/Classification not possible

### Reference Book:

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
Hazard Communication Standard - 2012 (29 CFR 1910.1200)  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### [General Disclaimer]

The GHS classification data given here is based on current EU official data (Consolidated version of the CLP Regulation published in 1.3.2022 and Commission delegated regulation (EU) 2021/849 (ATP17)) & US Hazard Communication Standard - 2012.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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## Section 1: Identification

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### Product identifier

**Product name:** Solution II  
**Product code:** PF001-21

### Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses of the product:

This product is for research and development only.

### Details of the supplier of the safety data sheet

**Name:** GeneFrontier Corporation  
**Address:** SHARP Kashiwa Building 4F, 273-1  
Kashiwa, Kashiwa-shi, Chiba 277-0005,  
Japan  
**Telephone number:** +81-4-7137-6301  
**Fax number:** +81-4-7132-7530  
**e-mail address:** purefrex@genefrontier.com  
**Emergency telephone number:** +81-4-7137-6301

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## Section 2: Hazard(s) identification

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### GHS classification and label elements of the product

Classification according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Classification of the substance or mixture:** Not classified to GHS classification.

Labelling according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Label elements:** No GHS label element.  
No Signal word.

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## Section 3: Composition/information on ingredients

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**Mixture/Substance selection:** Mixture

Ingredient name	CAS No.	Content (%)
Buffer	Trade secret	0.1 - 1
Mineral F	Trade secret	0.1 - 2
Glycerin	56-81-5	25 - 30

Note: The figures shown above are not the specifications of the product.

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

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## Section 4: First-aid measures

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### Descriptions of first-aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

### Most important symptoms/effects, both acute and delayed

Specific information on symptom and effect are unknown.

### Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

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## Section 5: Fire-fighting measures

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### Extinguishing media

#### Suitable extinguishing media:

Use appropriate extinguishing media suitable for surrounding facilities.

#### Unsuitable extinguishing media:

Unsuitable extinguishing media data is not available.

### Specific hazards arising from the substance or mixture

No information available

### Advice for firefighters

#### Specific fire-fighting measures:

Evacuate non-essential personnel to safe area.

#### Special protective equipment and precautions for fire-fighters:

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## **Section 6: Accidental release measures**

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

Keep unauthorized personnel away. Wear proper protective equipment.

### **Environmental precautions**

Prevent spills from entering sewers, watercourses, or low areas.  
Do not wash away into sewers or waterway.

### **Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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## **Section 7: Handling and storage**

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### **Precautions for safe handling**

#### **Preventive measures:**

Avoid contact with skin.  
Avoid contact with eyes.

#### **Safety treatments:**

Use personal protective equipment as required.

#### **Advice on general occupational hygiene:**

Do not get in eyes, on skin, or on clothing.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

### **Storage**

#### **Conditions for safe storage:**

Keep container tightly closed.  
Store at temperatures not exceeding designated temperature.  
Storage temperature upper limit: -20 °C/ -4 °F

#### **Container and packaging materials for safe handling:**

No information available.

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## Section 8: Exposure controls/personal protection

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### Control parameters

Adopted value

Adopted value in ACGIH is not available.

OSHA-PEL

(Glycerin)

TWA: 5 mg/m<sup>3</sup> (Respirable fraction)

TWA: 15 mg/m<sup>3</sup> (Total dust)

NIOSH-REL

(Glycerin)

See Appendix D

### Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures, such as personal protective equipment:

Hand protection

Wear protective gloves.

Recommended material(s): impermeable or chemical resistant rubber.

Eye protection

Wear safety glasses with side-shields or chemical safety goggles.

Skin and body protection

Wear protective clothing.

---

## Section 9: Physical and chemical properties

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### Information on basic physical and chemical properties

Physical state: Liquid

Colour: Clear

Odour: None

Odour threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 7-8

Kinematic viscosity data is not available.

Solubility

Solubility in water: Soluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density data is not available.  
Relative vapor density (Air=1) data is not available.  
Particle characteristics: Not applicable.  
Evaporation rate data is not available.

**Other information**

No information available.

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**Section 10: Stability and reactivity**

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**Reactivity**

Reactivity data is not available.

**Chemical stability**

Stable under normal storage/handling conditions (see Section 7).

**Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

**Conditions to avoid**

Conditions to avoid data is not available.

**Incompatible materials**

Incompatible materials data is not available.

**Hazardous decomposition products**

Hazardous decomposition products data is not available.

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## Section 11: Toxicological information

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### Information on toxicological effects

Acute toxicity	
Acute toxicity (Oral)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Dermal)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Inhalation)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Irritant properties	
Skin corrosion/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Serious eye damage/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Sensitization	
Respiratory sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Skin sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Germ cell mutagenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Carcinogenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Reproductive toxicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Specific target organ toxicity (STOT)	
STOT-single exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.



Aspiration hazard

Classification of the product is not possible (Insufficient data available or no data available).

Data for components of the product is not available.

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## Section 12: Ecological information

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### Toxicity:

Aquatic toxicity

Classification of the product is not possible (Insufficient data available or no data available).

Data for components of the product is not available.

Water solubility

Mineral F

256 g/100 ml (20°C) (ICSC, 2006)

Glycerin

miscible (ICSC, 2006)

### Persistence and degradability:

Persistence and degradability data is not available.

### Bioaccumulative potential:

(Glycerin)

log Pow=-1.76 (ICSC, 2006)

### Mobility in soil:

Mobility in soil data is not available.

### Other adverse effects:

Ozone depleting chemical data is not available.

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## Section 13: Disposal considerations

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Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

### Waste treatment methods:

Dispose of contents/container in accordance with local/national regulation.

Do not dump into sewers, on the ground or into any body of water.

### Contaminated packing:

Dispose of container after using the contents completely.

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**Section 14: Transport information**

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**UN number, UN CLASS**

UN No. or ID No.	Not applicable.
UN Proper Shipping Name	Not applicable.
Class or division (Transport hazard class)	Not applicable.
Packing group	Not applicable.

**IMDG Code (International Maritime Dangerous Goods Regulations)**

Not applicable.

**IATA Dangerous Goods Regulations**

Not applicable.

**Environmental hazards**

MARPOL Annex III - Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no

**Special precautions for user**

Not applicable.

**Maritime transport in bulk according to IMO instruments**

This product is not intended to be carried in bulk.

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**Section 15: Regulatory information**

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**Safety, health and environmental regulations/legislation specific for the substance or mixture****U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory  
Buffer; Mineral F; Glycerin

**Superfund Amendments and Reauthorizations Act (SARA), Title III**

This product contains no chemicals subjected to reporting levels established by SARA Title III, Section 313.

**California proposition 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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## Section 16: Other information

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### GHS classification and labelling:

Not classified/Classification not possible

### Reference Book:

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
Hazard Communication Standard - 2012 (29 CFR 1910.1200)  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### [General Disclaimer]

The GHS classification data given here is based on current EU official data (Consolidated version of the CLP Regulation published in 1.3.2022 and Commission delegated regulation (EU) 2021/849 (ATP17)) & US Hazard Communication Standard - 2012.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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## Section 1: Identification

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### Product identifier

**Product name:** Solution III  
**Product code:** PF001-3A1

### Relevant identified uses of the substance or mixture and uses advised against

#### Relevant identified uses of the product:

This product is for research and development only.

### Details of the supplier of the safety data sheet

**Name:** GeneFrontier Corporation  
**Address:** SHARP Kashiwa Building 4F, 273-1  
Kashiwa, Kashiwa-shi, Chiba 277-0005,  
Japan  
**Telephone number:** +81-4-7137-6301  
**Fax number:** +81-4-7132-7530  
**e-mail address:** purefrex@genefrontier.com  
**Emergency telephone number:** +81-4-7137-6301

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## Section 2: Hazard(s) identification

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### GHS classification and label elements of the product

Classification according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Classification of the substance or mixture:** Not classified to GHS classification.

Labelling according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Label elements:** No GHS label element.  
No Signal word.

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## Section 3: Composition/information on ingredients

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**Mixture/Substance selection:** Mixture

Ingredient name	CAS No.	Content (%)
Buffer	Trade secret	0.1 - 1
Mineral B	Trade secret	0.1 - 1
Mineral F	Trade secret	0.1 - 2

Note: The figures shown above are not the specifications of the product.

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

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## Section 4: First-aid measures

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### Descriptions of first-aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

### Most important symptoms/effects, both acute and delayed

Specific information on symptom and effect are unknown.

### Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

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## Section 5: Fire-fighting measures

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### Extinguishing media

#### Suitable extinguishing media:

Use appropriate extinguishing media suitable for surrounding facilities.

#### Unsuitable extinguishing media:

Unsuitable extinguishing media data is not available.

### Specific hazards arising from the substance or mixture

No information available

### Advice for firefighters

#### Specific fire-fighting measures:

Evacuate non-essential personnel to safe area.

#### Special protective equipment and precautions for fire-fighters:

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## **Section 6: Accidental release measures**

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

Keep unauthorized personnel away. Wear proper protective equipment.

### **Environmental precautions**

Prevent spills from entering sewers, watercourses, or low areas.

Do not wash away into sewers or waterway.

### **Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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## **Section 7: Handling and storage**

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### **Precautions for safe handling**

#### **Preventive measures:**

Avoid contact with skin.

Avoid contact with eyes.

#### **Safety treatments:**

Use personal protective equipment as required.

#### **Advice on general occupational hygiene:**

Do not get in eyes, on skin, or on clothing.

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

Wash hands thoroughly after handling.

### **Storage**

#### **Conditions for safe storage:**

Keep container tightly closed.

Store at temperatures not exceeding designated temperature.

Storage temperature upper limit: -70 °C/ -94 °F

#### **Container and packaging materials for safe handling:**

No information available.

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## Section 8: Exposure controls/personal protection

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### Control parameters

Adopted value

Adopted value in ACGIH is not available.

OSHA-PEL

OSHA-PEL data is not available.

NIOSH-REL

NIOSH-REL data is not available.

### Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures, such as personal protective equipment:

Hand protection

Wear protective gloves.

Recommended material(s): impermeable or chemical resistant rubber.

Eye protection

Wear safety glasses with side-shields or chemical safety goggles.

Skin and body protection

Wear protective clothing.

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## Section 9: Physical and chemical properties

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### Information on basic physical and chemical properties

Physical state: Liquid

Colour: Clear

Odour: None

Odour threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 7-8

Kinematic viscosity data is not available.

Solubility

Solubility in water: Soluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density data is not available.  
Relative vapor density (Air=1) data is not available.  
Particle characteristics: Not applicable.  
Evaporation rate data is not available.

**Other information**

No information available.

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**Section 10: Stability and reactivity**

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**Reactivity**

Reactivity data is not available.

**Chemical stability**

Stable under normal storage/handling conditions (see Section 7).

**Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

**Conditions to avoid**

Conditions to avoid data is not available.

**Incompatible materials**

Incompatible materials data is not available.

**Hazardous decomposition products**

Hazardous decomposition products data is not available.



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## Section 11: Toxicological information

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### Information on toxicological effects

Acute toxicity	
Acute toxicity (Oral)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Dermal)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Inhalation)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Irritant properties	
Skin corrosion/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Serious eye damage/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Sensitization	
Respiratory sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Skin sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Germ cell mutagenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Carcinogenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Reproductive toxicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Specific target organ toxicity (STOT)	
STOT-single exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Aspiration hazard	Classification of the product is not possible (Insufficient data available or no data available).

available or no data available).  
Data for components of the product is not available.

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**Section 12: Ecological information**

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**Toxicity:**

Aquatic toxicity	Classification of the product is not possible (Insufficient data available or no data available).	
	Data for components of the product is not available.	
Water solubility	Mineral F	256 g/100 ml (20°C) (ICSC, 2006)

**Persistence and degradability:**

Persistence and degradability data is not available.

**Bioaccumulative potential:**

Bioaccumulative potential data is not available.

**Mobility in soil:**

Mobility in soil data is not available.

**Other adverse effects:**

Ozone depleting chemical data is not available.

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**Section 13: Disposal considerations**

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Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

**Waste treatment methods:**

Dispose of contents/container in accordance with local/national regulation.  
Do not dump into sewers, on the ground or into any body of water.

**Contaminated packing:**

Dispose of container after using the contents completely.

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**Section 14: Transport information**

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**UN number, UN CLASS**

UN No. or ID No.	Not applicable.
UN Proper Shipping Name	Not applicable.
Class or division (Transport hazard class)	Not applicable.
Packing group	Not applicable.

**IMDG Code (International Maritime Dangerous Goods Regulations)**

Not applicable.

**IATA Dangerous Goods Regulations**

Not applicable.

**Environmental hazards**

MARPOL Annex III - Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no

**Special precautions for user**

Not applicable.

**Maritime transport in bulk according to IMO instruments**

This product is not intended to be carried in bulk.

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**Section 15: Regulatory information**

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**Safety, health and environmental regulations/legislation specific for the substance or mixture****U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory  
Buffer; Mineral B; Mineral F

**Superfund Amendments and Reauthorizations Act (SARA), Title III**

This product contains no chemicals subjected to reporting levels established by SARA Title III, Section 313.

**California proposition 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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## Section 16: Other information

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### GHS classification and labelling:

Not classified/Classification not possible

### Reference Book:

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
Hazard Communication Standard - 2012 (29 CFR 1910.1200)  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### [General Disclaimer]

The GHS classification data given here is based on current EU official data (Consolidated version of the CLP Regulation published in 1.3.2022 and Commission delegated regulation (EU) 2021/849 (ATP17)) & US Hazard Communication Standard - 2012.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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## Section 1: Identification

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### Product identifier

**Product name:** DHFR DNA  
**Product code:** PF001-D2

### Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses of the product:

This product is for research and development only.

### Details of the supplier of the safety data sheet

**Name:** GeneFrontier Corporation  
**Address:** SHARP Kashiwa Building 4F, 273-1  
Kashiwa, Kashiwa-shi, Chiba 277-0005,  
Japan  
**Telephone number:** +81-4-7137-6301  
**Fax number:** +81-4-7132-7530  
**e-mail address:** purefex@genefrontier.com  
**Emergency telephone number:** +81-4-7137-6301

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## Section 2: Hazard(s) identification

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### GHS classification and label elements of the product

Classification according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Classification of the substance or mixture:** Not classified to GHS classification.

Labelling according to Hazard Communication Standard - 2012 (29 CFR 1910.1200)

**Label elements:** No GHS label element.  
No Signal word.

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## Section 3: Composition/information on ingredients

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**Mixture/Substance selection:** Mixture

Ingredient name	CAS No.	Content (%)
DNA	-	< 0.1

Note: The figures shown above are not the specifications of the product.

The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

The components not described in this component table are not listed in Table 3 of Annex VI in EU CLP.

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## Section 4: First-aid measures

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### Descriptions of first-aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF ON SKIN (or hair)	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
IF IN EYES	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

### Most important symptoms/effects, both acute and delayed

Specific information on symptom and effect are unknown.

### Indication of any immediate medical attention and special treatment needed

Information on indication of any immediate medical attention and special treatment needed is not available.

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## Section 5: Fire-fighting measures

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### Extinguishing media

#### Suitable extinguishing media:

Use appropriate extinguishing media suitable for surrounding facilities.

#### Unsuitable extinguishing media:

Unsuitable extinguishing media data is not available.

### Specific hazards arising from the substance or mixture

No information available

### Advice for firefighters

#### Specific fire-fighting measures:

Evacuate non-essential personnel to safe area.

#### Special protective equipment and precautions for fire-fighters:

Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

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## **Section 6: Accidental release measures**

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

Keep unauthorized personnel away. Wear proper protective equipment.

### **Environmental precautions**

Prevent spills from entering sewers, watercourses, or low areas.  
Do not wash away into sewers or waterway.

### **Methods and materials for containment and cleaning up**

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

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## **Section 7: Handling and storage**

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### **Precautions for safe handling**

#### **Preventive measures:**

Avoid contact with skin.  
Avoid contact with eyes.

#### **Safety treatments:**

Use personal protective equipment as required.

#### **Advice on general occupational hygiene:**

Do not get in eyes, on skin, or on clothing.  
Do not eat, drink or smoke when using this product.  
Wash hands thoroughly after handling.

### **Storage**

#### **Conditions for safe storage:**

Keep container tightly closed.  
Store at temperatures not exceeding designated temperature.  
Storage temperature upper limit: -20 °C/ -4 °F

#### **Container and packaging materials for safe handling:**

No information available.

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## Section 8: Exposure controls/personal protection

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### Control parameters

Adopted value

Adopted value in ACGIH is not available.

OSHA-PEL

OSHA-PEL data is not available.

NIOSH-REL

NIOSH-REL data is not available.

### Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.

Washing facilities should be available.

#### Individual protection measures, such as personal protective equipment:

Hand protection

Wear protective gloves.

Recommended material(s): impermeable or chemical resistant rubber.

Eye protection

Wear safety glasses with side-shields or chemical safety goggles.

Skin and body protection

Wear protective clothing.

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## Section 9: Physical and chemical properties

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### Information on basic physical and chemical properties

Physical state: Liquid

Colour: Clear

Odour: None

Odour threshold data is not available.

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids): Non-flammable

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: 7-8

Kinematic viscosity data is not available.

Solubility

Solubility in water: Soluble

Solubility in solvent data is not available.

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.



Density and/or relative density data is not available.  
Relative vapor density (Air=1) data is not available.  
Particle characteristics: Not applicable.  
Evaporation rate data is not available.

**Other information**

No information available.

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**Section 10: Stability and reactivity**

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**Reactivity**

Reactivity data is not available.

**Chemical stability**

Stable under normal storage/handling conditions (see Section 7).

**Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

**Conditions to avoid**

Conditions to avoid data is not available.

**Incompatible materials**

Incompatible materials data is not available.

**Hazardous decomposition products**

Hazardous decomposition products data is not available.

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## Section 11: Toxicological information

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### Information on toxicological effects

Acute toxicity	
Acute toxicity (Oral)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Dermal)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Acute toxicity (Inhalation)	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Irritant properties	
Skin corrosion/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Serious eye damage/irritation	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Sensitization	
Respiratory sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Skin sensitization	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Germ cell mutagenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Carcinogenicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Reproductive toxicity	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Specific target organ toxicity (STOT)	
STOT-single exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.
Aspiration hazard	Classification of the product is not possible (Insufficient data available or no data available).

available or no data available).  
Data for components of the product is not available.

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## Section 12: Ecological information

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### Toxicity:

Aquatic toxicity                      Classification of the product is not possible (Insufficient data available or no data available).  
Data for components of the product is not available.

### Persistence and degradability:

Persistence and degradability data is not available.

### Bioaccumulative potential:

Bioaccumulative potential data is not available.

### Mobility in soil:

Mobility in soil data is not available.

### Other adverse effects:

Ozone depleting chemical data is not available.

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## Section 13: Disposal considerations

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Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

### Waste treatment methods:

Dispose of contents/container in accordance with local/national regulation.  
Do not dump into sewers, on the ground or into any body of water.

### Contaminated packing:

Dispose of container after using the contents completely.

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**Section 14: Transport information**

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**UN number, UN CLASS**

UN No. or ID No.	Not applicable.
UN Proper Shipping Name	Not applicable.
Class or division (Transport hazard class)	Not applicable.
Packing group	Not applicable.

**IMDG Code (International Maritime Dangerous Goods Regulations)**

Not applicable.

**IATA Dangerous Goods Regulations**

Not applicable.

**Environmental hazards**

MARPOL Annex III - Prevention of pollution by harmful substances  
Marine pollutants (yes/no) : no

**Special precautions for user**

Not applicable.

**Maritime transport in bulk according to IMO instruments**

This product is not intended to be carried in bulk.

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**Section 15: Regulatory information**

---

**Safety, health and environmental regulations/legislation specific for the substance or mixture****U.S. Toxic Substances Control Act (TSCA) Inventory**

Chemicals listed in TSCA Inventory  
None

**Superfund Amendments and Reauthorizations Act (SARA), Title III**

This product contains no chemicals subjected to reporting levels established by SARA Title III, Section 313.

**California proposition 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**Other regulatory information**

We are not able to check up the regulatory information with regard to the substances in your country or region, therefore, we request this matter would be filled by your responsibility.

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**Section 16: Other information**

---

**GHS classification and labelling:**

Not classified/Classification not possible

**Reference Book:**

Globally Harmonized System of classification and labelling of chemicals, UN  
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN  
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)  
IATA Dangerous Goods Regulations (62nd Edition) 2021  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
Hazard Communication Standard - 2012 (29 CFR 1910.1200)  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

**[General Disclaimer]**

The GHS classification data given here is based on current EU official data (Consolidated version of the CLP Regulation published in 1.3.2022 and Commission delegated regulation (EU) 2021/849 (ATP17)) & US Hazard Communication Standard - 2012.

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.