

## Kit

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

## Contents

Product name	Product No.
Solution I	PF001-11
Solution II	PF001-21
Solution III	PF-3A1
DHFR DNA	PF001-D2

according to Regulation (EC) No.1907/2006 (REACH), amended by COMMISSION REGULATION (EU) 2020/878

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

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

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

**Recommended uses:** This product is for research and development only.  
**Uses advised against:** No information available.

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

**Name of manufacturer:** 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:** purefrefx@genefrontier.com

### 1.4. Emergency telephone number

**Telephone number:** +81-4-7137-6301  
**Opening hours:** 9:15am – 5:55pm Monday - Friday

## SECTION 2: Hazards identification

### GHS classification and label elements of the product

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No.1272/2008 [CLP]  
Not classified/Classification not possible.

#### 2.2. Label elements

Labelling according to Regulation (EC) No.1272/2008 [CLP]  
No GHS label element.  
No Signal word.

#### 2.3. Other hazards

The product does not contain any ingredient designated as PBT and/or vPvB.  
The product does not contain any ingredients designated as Endocrine disrupting properties.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable.

### 3.2. Mixtures

#### Information on ingredients:

Ingredient name	CAS No.	Content (%)
Classification according to REGULATION (EC) No.1272/2008 [CLP]	EC No.	
Mineral A	CBI	1-5
-	CBI	
Mineral C	CBI	1-5
-	CBI	
Mineral D	CBI	0.1-2
-	CBI	
Mineral B	CBI	0.1-1
-	CBI	
Buffer	CBI	0.1-1
-	CBI	
Nucleotide A	CBI	0.1-1
-	CBI	
Nucleotide B	CBI	0.1-1
-	CBI	

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

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

#### Components contributing to the hazard:

The product does not contain any ingredients listed in REACH SVHC candidate list.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/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/doctor/ physician if you feel unwell.

#### **4.2. Most important symptoms and effects, both acute and delayed**

Specific information on symptom and effect are unknown.

#### **4.3. 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: Firefighting measures**

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#### **5.1. Extinguishing media**

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

Use appropriate extinguishing media suitable for surrounding facilities.

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

Unsuitable extinguishing media data is not available.

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

No information available.

#### **5.3. 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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#### **6.1. Personal precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

Wear proper protective equipment.

#### **6.2. Environmental precautions**

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

Do not wash away into sewers or waterway.

#### **6.3. 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.

#### **6.4. Reference to other sections**

Refer to SECTION 8 for personal protection.

Refer to SECTION 13 for disposal information.

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## SECTION 7: Handling and storage

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### 7.1. Precautions for safe handling

#### Preventive measures:

- Avoid contact with skin.
- Avoid contact with eyes.

#### Safety Measures:

- 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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Conditions for storage:

- Keep container tightly closed.
- Store at temperatures not exceeding -20 °C.

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

- No information available.

### 7.3. Specific end use(s)

- Information on Specific end use(s) is not available.

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## SECTION 8: Exposure controls/personal protection

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### 8.1. Control parameters

- |               |  |
|---------------|--|
| Adopted value | Adopted value in ACGIH is not available. |
| EU OEL value  | EU OEL value is not available.           |

### 8.2. Exposure controls

#### Appropriate engineering controls:

- Eye wash station should be available.
- Washing facilities should be available.

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

- |                          |   |
|--------------------------|---|
| Respiratory protection   | Respiratory protection not required.  |
| Hand protection          | Wear protective gloves.<br>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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### **9.1. 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.

### **9.2. Other information**

Other information is not available.

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## **SECTION 10: Stability and reactivity**

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### **10.1. Reactivity**

Reactivity data is not available.

### **10.2. Chemical stability**

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

### **10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

### **10.4. Conditions to avoid**

Conditions to avoid data is not available.

### **10.5. Incompatible materials**

Incompatible materials data is not available.

## 10.6. Hazardous decomposition products

Hazardous decomposition products data is not available.

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## SECTION 11: Toxicological information

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### 11.1. 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.

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STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available).
Aspiration hazard	Data for components of the product is not available. Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.

#### 11.2. Information on other hazards

Endocrine disrupting properties is not available.

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### SECTION 12: Ecological information

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#### 12.1. 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.
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#### 12.2. Persistence and degradability

Persistence and degradability data is not available.

#### 12.3. Bioaccumulative potential

Bioaccumulative potential data is not available.

#### 12.4. Mobility in soil

Mobility in soil data is not available.

#### 12.5. Results of PBT and vPvB assessment

PBT and/or vPvB assessment data is not available.

#### 12.6. Endocrine disrupting properties

Endocrine disrupting properties is not available.

#### 12.7. 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**

### 13.1. 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**

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

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

Not applicable.

### **IATA Dangerous Goods Regulations**

Not applicable.

### 14.5. Environmental hazards

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

### 14.6. Special precautions for user

Not applicable.

### 14.7. 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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### **15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture**

The product does not contain any ingredients listed in REACH SVHC candidate list.  
Other information is not available.

#### **Other regulatory information:**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this product.

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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  
EU REGULATION (EC) No. 1272/2008 (CLP), amended by COMMISSION REGULATION (EU) 2019/521  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### **[General Disclaimer]**

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.

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)).

according to Regulation (EC) No.1907/2006 (REACH), amended by COMMISSION REGULATION (EU) 2020/878

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

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

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

**Recommended uses:** This product is for research and development only.  
**Uses advised against:** No information available.

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

**Name of manufacturer:** 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:** purefrefx@genefrontier.com

### 1.4. Emergency telephone number

**Telephone number:** +81-4-7137-6301  
**Opening hours:** 9:15am – 5:55pm Monday - Friday

## SECTION 2: Hazards identification

### GHS classification and label elements of the product

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No.1272/2008 [CLP]  
Not classified/Classification not possible.

#### 2.2. Label elements

Labelling according to Regulation (EC) No.1272/2008 [CLP]  
No GHS label element.  
No Signal word.

#### 2.3. Other hazards

The product does not contain any ingredient designated as PBT and/or vPvB.  
The product does not contain any ingredients designated as Endocrine disrupting properties.

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## SECTION 3: Composition/information on ingredients

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### 3.1. Substances

Not applicable.

### 3.2. Mixtures

#### Information on ingredients:

Ingredient name	CAS No.	Content (%)
Classification according to REGULATION (EC) No.1272/2008 [CLP]	EC No.	
Glycerin	56-81-5	25-30
-	200-289-5	
Mineral F	CBI	0.1-2
-	CBI	
Buffer	CBI	0.1-1
-	CBI	

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

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

#### Components contributing to the hazard:

The product does not contain any ingredients listed in REACH SVHC candidate list.

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## SECTION 4: First aid measures

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### 4.1. Description of first aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/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/doctor/ physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

### 4.3. 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: Firefighting measures**

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### **5.1. Extinguishing media**

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

Use appropriate extinguishing media suitable for surrounding facilities.

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

Unsuitable extinguishing media data is not available.

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

No information available.

### **5.3. 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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### **6.1. Personal precautions, protective equipment and emergency procedures**

Keep unauthorized personnel away.

Wear proper protective equipment.

### **6.2. Environmental precautions**

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

Do not wash away into sewers or waterway.

### **6.3. 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.

### **6.4. Reference to other sections**

Refer to SECTION 8 for personal protection.

Refer to SECTION 13 for disposal information.

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## SECTION 7: Handling and storage

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### 7.1. Precautions for safe handling

#### Preventive measures:

Avoid contact with skin.  
Avoid contact with eyes.

#### Safety Measures:

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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Conditions for storage:

Keep container tightly closed.  
Store at temperatures not exceeding -20 °C.

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

No information available.

### 7.3. Specific end use(s)

Information on Specific end use(s) is not available.

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## SECTION 8: Exposure controls/personal protection

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### 8.1. Control parameters

Adopted value	Adopted value in ACGIH is not available.
EU OEL value	EU OEL value is not available.

### 8.2. Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.  
Washing facilities should be available.

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

Respiratory protection	Respiratory protection not required.
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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### **9.1. 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.

### **9.2. Other information**

Other information is not available.

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## **SECTION 10: Stability and reactivity**

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### **10.1. Reactivity**

Reactivity data is not available.

### **10.2. Chemical stability**

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

### **10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

### **10.4. Conditions to avoid**

Conditions to avoid data is not available.

### **10.5. Incompatible materials**

Incompatible materials data is not available.

## 10.6. Hazardous decomposition products

Hazardous decomposition products data is not available.

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## SECTION 11: Toxicological information

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### 11.1. 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.



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STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available).
Aspiration hazard	Data for components of the product is not available. Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.

#### 11.2. Information on other hazards

Endocrine disrupting properties is not available.

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### SECTION 12: Ecological information

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#### 12.1. 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)

#### 12.2. Persistence and degradability

Persistence and degradability data is not available.

#### 12.3. Bioaccumulative potential

Glycerin log Pow=-1.76 (ICSC, 2006)

#### 12.4. Mobility in soil

Mobility in soil data is not available.

#### 12.5. Results of PBT and vPvB assessment

PBT and/or vPvB assessment data is not available.

#### 12.6. Endocrine disrupting properties

Endocrine disrupting properties is not available.

#### 12.7. 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**

### 13.1. 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**

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

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

Not applicable.

### **IATA Dangerous Goods Regulations**

Not applicable.

### 14.5. Environmental hazards

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

### 14.6. Special precautions for user

Not applicable.

### 14.7. 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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### **15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture**

The product does not contain any ingredients listed in REACH SVHC candidate list.  
Other information is not available.

#### **Other regulatory information:**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this product.

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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  
EU REGULATION (EC) No. 1272/2008 (CLP), amended by COMMISSION REGULATION (EU) 2019/521  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### **[General Disclaimer]**

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.

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)).

according to Regulation (EC) No.1907/2006 (REACH), amended by COMMISSION REGULATION (EU) 2020/878

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

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### 1.1. Product identifier

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

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

**Recommended uses:** This product is for research and development only.  
**Uses advised against:** No information available.

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

**Name of manufacturer:** 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:** purefrefx@genefrontier.com

### 1.4. Emergency telephone number

**Telephone number:** +81-4-7137-6301  
**Opening hours:** 9:15am – 5:55pm Monday - Friday

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## SECTION 2: Hazards identification

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### GHS classification and label elements of the product

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No.1272/2008 [CLP]  
Not classified/Classification not possible.

#### 2.2. Label elements

Labelling according to Regulation (EC) No.1272/2008 [CLP]  
No GHS label element.  
No Signal word.

#### 2.3. Other hazards

The product does not contain any ingredient designated as PBT and/or vPvB.  
The product does not contain any ingredients designated as Endocrine disrupting properties.

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## SECTION 3: Composition/information on ingredients

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### 3.1. Substances

Not applicable.

### 3.2. Mixtures

#### Information on ingredients:

Ingredient name	CAS No.	Content (%)
Classification according to REGULATION (EC) No.1272/2008 [CLP]	EC No.	
Mineral F	CBI	0.1-2
-	CBI	
Mineral B	CBI	0.1-1
-	CBI	
Buffer	CBI	0.1-1
-	CBI	

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

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

#### Components contributing to the hazard:

The product does not contain any ingredients listed in REACH SVHC candidate list.

---

## SECTION 4: First aid measures

---

### 4.1. Description of first aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/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/doctor/ physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

### 4.3. 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.

---

## **SECTION 5: Firefighting measures**

---

### **5.1. Extinguishing media**

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

Use appropriate extinguishing media suitable for surrounding facilities.

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

Unsuitable extinguishing media data is not available.

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

No information available.

### **5.3. 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.

---

## **SECTION 6: Accidental release measures**

---

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

Keep unauthorized personnel away.

Wear proper protective equipment.

### **6.2. Environmental precautions**

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

Do not wash away into sewers or waterway.

### **6.3. 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.

### **6.4. Reference to other sections**

Refer to SECTION 8 for personal protection.

Refer to SECTION 13 for disposal information.

---

## SECTION 7: Handling and storage

---

### 7.1. Precautions for safe handling

#### Preventive measures:

- Avoid contact with skin.
- Avoid contact with eyes.

#### Safety Measures:

- 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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Conditions for storage:

- Keep container tightly closed.
- Store at temperatures not exceeding -70 °C.

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

- No information available.

### 7.3. Specific end use(s)

- Information on Specific end use(s) is not available.

---

## SECTION 8: Exposure controls/personal protection

---

### 8.1. Control parameters

- |               |  |
|---------------|--|
| Adopted value | Adopted value in ACGIH is not available. |
| EU OEL value  | EU OEL value is not available.           |

### 8.2. Exposure controls

#### Appropriate engineering controls:

- Eye wash station should be available.
- Washing facilities should be available.

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

- |                          |   |
|--------------------------|---|
| Respiratory protection   | Respiratory protection not required.  |
| Hand protection          | Wear protective gloves.<br>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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### **9.1. 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.

### **9.2. Other information**

Other information is not available.

---

## **SECTION 10: Stability and reactivity**

---

### **10.1. Reactivity**

Reactivity data is not available.

### **10.2. Chemical stability**

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

### **10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

### **10.4. Conditions to avoid**

Conditions to avoid data is not available.

### **10.5. Incompatible materials**

Incompatible materials data is not available.



## 10.6. Hazardous decomposition products

Hazardous decomposition products data is not available.

---

## SECTION 11: Toxicological information

---

### 11.1. 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.

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STOT-repeated exposure	Classification of the product is not possible (Insufficient data available or no data available).
Aspiration hazard	Data for components of the product is not available. Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.

#### 11.2. Information on other hazards

Endocrine disrupting properties is not available.

---

### SECTION 12: Ecological information

---

#### 12.1. 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)

#### 12.2. Persistence and degradability

Persistence and degradability data is not available.

#### 12.3. Bioaccumulative potential

Bioaccumulative potential data is not available.

#### 12.4. Mobility in soil

Mobility in soil data is not available.

#### 12.5. Results of PBT and vPvB assessment

PBT and/or vPvB assessment data is not available.

#### 12.6. Endocrine disrupting properties

Endocrine disrupting properties is not available.

#### 12.7. Other adverse effects

Ozone depleting chemical data is not available.

---

## SECTION 13: Disposal considerations

---

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

### 13.1. 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.

---

## SECTION 14: Transport information

---

### **UN number, UN CLASS**

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

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

Not applicable.

### **IATA Dangerous Goods Regulations**

Not applicable.

### 14.5. Environmental hazards

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

### 14.6. Special precautions for user

Not applicable.

### 14.7. 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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### **15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture**

The product does not contain any ingredients listed in REACH SVHC candidate list.  
Other information is not available.

#### **Other regulatory information:**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this product.

---

## **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  
EU REGULATION (EC) No. 1272/2008 (CLP), amended by COMMISSION REGULATION  
(EU) 2019/521  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

### **[General Disclaimer]**

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.

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)).

according to Regulation (EC) No.1907/2006 (REACH), amended by COMMISSION REGULATION (EU) 2020/878

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

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### 1.1. Product identifier

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

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

**Recommended uses:** This product is for research and development only.  
**Uses advised against:** No information available.

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

**Name of manufacturer:** 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:** purefrefx@genefrontier.com

### 1.4. Emergency telephone number

**Telephone number:** +81-4-7137-6301  
**Opening hours:** 9:15am – 5:55pm Monday - Friday

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## SECTION 2: Hazards identification

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### GHS classification and label elements of the product

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No.1272/2008 [CLP]  
Not classified/Classification not possible.

#### 2.2. Label elements

Labelling according to Regulation (EC) No.1272/2008 [CLP]  
No GHS label element.  
No Signal word.

#### 2.3. Other hazards

The product does not contain any ingredient designated as PBT and/or vPvB.  
The product does not contain any ingredients designated as Endocrine disrupting properties.

---

## SECTION 3: Composition/information on ingredients

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### 3.1. Substances

Not applicable.

### 3.2. Mixtures

#### Information on ingredients:

Ingredient name	CAS No.	Content (%)
Classification according to REGULATION (EC) No.1272/2008 [CLP]	EC No.	
DNA	-	< 0.1
-	-	

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

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

#### Components contributing to the hazard:

The product does not contain any ingredients listed in REACH SVHC candidate list.

---

## SECTION 4: First aid measures

---

### 4.1. Description of first aid measures

IF INHALED	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/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/doctor/ physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Specific information on symptom and effect are unknown.

### 4.3. 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.

---

## **SECTION 5: Firefighting measures**

---

### **5.1. Extinguishing media**

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

Use appropriate extinguishing media suitable for surrounding facilities.

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

Unsuitable extinguishing media data is not available.

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

No information available.

### **5.3. 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.

---

## **SECTION 6: Accidental release measures**

---

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

Keep unauthorized personnel away.

Wear proper protective equipment.

### **6.2. Environmental precautions**

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

Do not wash away into sewers or waterway.

### **6.3. 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.

### **6.4. Reference to other sections**

Refer to SECTION 8 for personal protection.

Refer to SECTION 13 for disposal information.

---

## SECTION 7: Handling and storage

---

### 7.1. Precautions for safe handling

#### Preventive measures:

Avoid contact with skin.  
Avoid contact with eyes.

#### Safety Measures:

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.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Conditions for storage:

Keep container tightly closed.  
Store at temperatures not exceeding -20 °C.

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

No information available.

### 7.3. Specific end use(s)

Information on Specific end use(s) is not available.

---

## SECTION 8: Exposure controls/personal protection

---

### 8.1. Control parameters

Adopted value	Adopted value in ACGIH is not available.
EU OEL value	EU OEL value is not available.

### 8.2. Exposure controls

#### Appropriate engineering controls:

Eye wash station should be available.  
Washing facilities should be available.

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

Respiratory protection	Respiratory protection not required.
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**

---

### **9.1. 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.

### **9.2. Other information**

Other information is not available.

---

## **SECTION 10: Stability and reactivity**

---

### **10.1. Reactivity**

Reactivity data is not available.

### **10.2. Chemical stability**

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

### **10.3. Possibility of hazardous reactions**

Possibility of hazardous reactions data is not available.

### **10.4. Conditions to avoid**

Conditions to avoid data is not available.

### **10.5. Incompatible materials**

Incompatible materials data is not available.

## 10.6. Hazardous decomposition products

Hazardous decomposition products data is not available.

---

## SECTION 11: Toxicological information

---

### 11.1. 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).
Aspiration hazard	Data for components of the product is not available. Classification of the product is not possible (Insufficient data available or no data available). Data for components of the product is not available.

#### 11.2. Information on other hazards

Endocrine disrupting properties is not available.

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### SECTION 12: Ecological information

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#### 12.1. 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.
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#### 12.2. Persistence and degradability

Persistence and degradability data is not available.

#### 12.3. Bioaccumulative potential

Bioaccumulative potential data is not available.

#### 12.4. Mobility in soil

Mobility in soil data is not available.

#### 12.5. Results of PBT and vPvB assessment

PBT and/or vPvB assessment data is not available.

#### 12.6. Endocrine disrupting properties

Endocrine disrupting properties is not available.

#### 12.7. Other adverse effects

Ozone depleting chemical data is not available.

---

## SECTION 13: Disposal considerations

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

### 13.1. 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.

---

## SECTION 14: Transport information

### UN number, UN CLASS

14.1. UN No. or ID No. Not applicable.

14.2. UN Proper Shipping Name Not applicable.

14.3. Class or division (Transport hazard class) Not applicable.

14.4. Packing group Not applicable.

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

Not applicable.

### IATA Dangerous Goods Regulations

Not applicable.

### 14.5. Environmental hazards

MARPOL Annex III - Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

### 14.6. Special precautions for user

Not applicable.

### 14.7. Maritime transport in bulk according to IMO instruments

This product is not intended to be carried in bulk.

---

## **SECTION 15: Regulatory information**

---

### **15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture**

The product does not contain any ingredients listed in REACH SVHC candidate list.  
Other information is not available.

#### **Other regulatory information:**

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

### **15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this product.

---

## **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  
EU REGULATION (EC) No. 1272/2008 (CLP), amended by COMMISSION REGULATION  
(EU) 2019/521  
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)  
2022 TLVs and BEIs. (ACGIH)  
Supplier's data/information  
GESTIS-Stoffdatenbank  
Pub Chem (OPEN CHEMISTRY DATABASE)

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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)).