

# Safety Data Sheet

Version 1

Revision Date 01/10/2025

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

### Product identifier

**Part name** Permeabilizer (Perm\_lzr)  
**Part number** CF1003

### Recommended use of the chemical and restrictions on use

**Recommended use** This product is for research use only.  
**Restrictions on use** No information available.

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

**Company** Epigenome Technologies, Inc.  
9853 Pacific Heights Blvd, Suite G&H San Diego, CA, 92121  
**Telephone** (1)858-666-5122  
**E-mail** info@epigenome.us

## Section 2: Hazard identification

### **Classification**

#### **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227  
Acute toxicity, oral (Category 3), H301  
Specific target organ toxicity – repeated exposure (Category 2), H373  
Short-term (acute) aquatic hazard (Category 3), H402

**Signal word** Danger.

### **Hazard pictogram**



### **Hazard statements**

H227 Combustible liquid.  
H301 Toxic if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

### **Precautionary statements**

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.

P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ eye protection/ face protection.
P301 + P310 + P330	If swallowed: Immediately call a poison center/ doctor. Rinse mouth.
P302 + P352	If on skin: Wash with plenty of water.
P305 + P351 + P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
P314	Get medical advice/ attention if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/ container to an approved waste disposal plant.

### Hazards not otherwise classified (HNOC)

Strong hydrogen fluoride-releaser.  
Rapidly absorbed through skin.

### Other information

No information available.

## Section 3: Composition and information on ingredients

### Substance

Not applicable.

### Mixture

Component	CAS No.	EC No.	Classification	Concentration
Dimethyl sulfoxide	67-68-5	200-846-2	Flam, Liq. 4; H227	90-100%
4-(2-aminoethyl)benzenesulfonyl fluoride hydrochloride	30827-99-7		Skin Corr. 1A; Eye Dam. 1; H314, H318	1-5%
Digitonin	11024-24-1	234-255-6	Acute Tox. 3; STOT RE 2; H301, H373	1-5%

## Section 4: First aid measures

**Description of first-aid measures:** No information available.

**Most important symptoms and effects:** See section 2 and 11.

**Indication of any immediate medical attention and special treatment needed:** No information available.

## Section 5: Firefighting measures

**Suitable Extinguishing Media:** No information available.

**Specific hazards arising from chemical:** Carbon oxides. Sulfur oxides. Sulfur oxides. Hydrogen chloride gas. Hydrogen fluoride. Combustible.

**Advice for fire-fighters:** No information available.

**Further information:** No information available.

## Section 6: Accidental release measures

**Personal precautions, protective equipment, and emergency procedures:** For personal protection see section 8.

**Environmental Precautions:** No information available.

**Methods and material for containment and cleaning up:** No information available.

**Waste disposal method:** For disposal see section 13.

## Section 7: Handling and storage

**Safe Handling:** For precautions see section 2.

**Storage Conditions:** Recommended storage temperature -20°C.

## Section 8: Exposure controls/personal protection

### Control parameters

### Ingredients with workplace control parameters

Component	CAS No.	Value	Control parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

### Exposure controls

#### **Personal protective equipment**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### **Control of environmental exposure**

Prevent product from entering drains.

## Section 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Color</b>	No data available
<b>Odor</b>	No data available
<b>Odor threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting point / range</b>	No data available
<b>Boiling point / range</b>	No data available
<b>Flash point</b>	87°C (189°F)
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Vapor pressure</b>	No data available
<b>Vapor density</b>	No data available
<b>Relative density</b>	No data available
<b>Specific gravity</b>	No data available
<b>Water solubility</b>	Soluble
<b>Solubility in other solvents</b>	No data available

<b>Partition coefficient n-octanol/water</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available
<b>Softening point</b>	No data available
<b>Molecular weight</b>	No data available
<b>VOC content (%)</b>	No data available
<b>Liquid density</b>	No data available
<b>Bulk density</b>	No data available

**Other information**

No data available

**Section 10: Stability and Reactivity**

**Reactivity:** No data available.

**Chemical stability:** No data available.

**Possibility of hazardous reactions:**

Risk of explosion with:

acetylidene  
organic halides  
perchlorates  
acid chlorides  
nonmetallic halides  
iron(III) compounds  
nitrates  
fluorides  
chlorates  
hydrides  
perchloric acid  
oxides of phosphorus  
nitric acid  
silver compounds  
silicon compounds  
silanes  
acid halides

Exothermic reaction with:

boron compounds  
oxyhalogenic compounds  
potassium  
sodium  
strong oxidizing agents  
phosphorus halides  
strong reducing agents  
acid chlorides  
strong acids  
silver salt  
nitrogen dioxide

Risk of ignition or formation of inflammable gases or vapours with:

potassium permanganate

**Conditions to avoid:** No data available.

**Incompatible materials:** No data available.

**Hazardous decomposition products:** In the event of fire: see section 5.

**Other decomposition products:** No information available.

## Section 11: Toxicological information

### Mixture

**Acute toxicity:** No data available.

**Skin corrosion/irritation:** No data available.

**Serious eye damage/eye irritation:** No data available.

**Germ cell mutagenicity:** No information available.

**Carcinogenicity:** No data available.

**Specific target organ toxicity:** No data available.

**Aspiration hazard:** No information available.

### Components

#### **Dimethyl sulfoxide**

##### **Acute toxicity**

LD50 Oral - Rat - male and female - 28,300 mg/kg

LC0 Inhalation - Rat - male and female - 4 h - > 5.33 mg/l - dust/mist

LD50 Dermal - Rat - male and female - 40,000 mg/kg

##### **Skin corrosion/irritation**

Skin - Rabbit

Result: slight irritation - 4 h

##### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: slight irritation - 24 h

##### **Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

Local lymph node assay (LLNA) – Mouse

Result: negative

##### **Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: sister chromatid exchange assay

Test system: Chinese hamster ovary cells

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration. Test system: Chinese hamster ovary cells

Result: negative

Species: Rat - male and female  
Result: negative

**Carcinogenicity:** No data available.

**Reproductive toxicity:** No data available.

**Specific target organ toxicity:** No data available.

**Aspiration hazard:** No data available.

#### **4-(2-aminoethyl)benzenesulfonyl fluoride hydrochloride**

**Acute toxicity:** No data available.

**Skin corrosion/irritation:** Causes severe burns.

**Serious eye damage/eye irritation:** Causes serious eye damage.

**Respiratory or skin sensitization:** No data available.

**Germ cell mutagenicity:** No data available.

**Carcinogenicity:** No data available.

**Reproductive toxicity:** No data available.

**Specific target organ toxicity:** No data available.

**Aspiration hazard:** No data available.

#### **Digitonin**

##### **Acute toxicity**

LD50 Oral - Rat - > 50 mg/kg

Remarks: (RTECS)

Inhalation: No data available

Dermal: No data available

**Skin corrosion/irritation:** No data available.

**Serious eye damage/eye irritation:** No data available.

**Respiratory or skin sensitization:** No data available.

**Germ cell mutagenicity:** No data available.

**Carcinogenicity:** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA.

**Reproductive toxicity:** No data available.

**Specific target organ toxicity:** No data available.

**Aspiration hazard:** No data available.

## Section 12: Ecological information

### Mixture

**Toxicity:** No data available.

**Persistence and degradability:** No data available.

**Bioaccumulation:** No data available.

**Mobility in soil:** No data available.

**PBT and vPvB assessment:** No data available.

**Other adverse effects:** No data available.

### Components

#### **Toxicity:**

Chemical name	Fish	Daphnia and other aquatic invertebrates	Algae	Bacteria
Dimethyl sulfoxide	LC50: > 25,000 mg/L (96h, Danio rerio (zebra fish))	EC50: 24,600 mg/L (48h, Daphnia magna (Water flea))	EC50: 17,000 mg/L (72h, Pseudokirchneriella subcapitata (green algae))	EC50: 10-100 mg/L (30min activated sludge)
4-(2-aminoethyl) benzenesulfonyl fluoride hydrochloride	No data available	No data available	No data available	No data available
Digitonin	No data available	No data available	No data available	No data available

## Section 13: Disposal considerations

**Waste treatment methods:** Dispose of in accordance with federal, state, and local regulations. Dispose of waste in accordance with environmental regulation.

## Section 14: Transport information

<b>DOT (US)</b>	Combustible liquid, not regulated for transportation in this quantity NA1993 Proper shipping name: Combustible liquid, n.o.s. (dimethyl sulfoxide) Packing group: III
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated

## Section 15: Other information

**Revision date** 10-Jan-2025

### Disclaimer

The information provided in this Safety Data Sheet is believed to be correct to the best of our knowledge and belief at the data of publication. This information is intended only as a guide for safe handling and should not be considered comprehensive. It does not represent any guarantee of the properties of the product. Epigenome Technologies, Inc. will not be liable for any damages resulting

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