

# Material Safety Data Sheet

according to EC-Regulation No. 1272/2008

updated: 02/2016

Version: 1.0

## Section I - Product and Company Information

Product Name	Caspase-4 Inhibitor, Z-LEVD-FMK
Product Number	PK-CA577-1108-20C, -100
Product Classification	Cell Biology Reagents
Company and Contact Information	PromoCell GmbH Sickingenstrasse 63/65 69126 Heidelberg Germany Phone: +49 6221 – 649 34 0 E-mail: info@promokine.info

## Section II – Composition/Information on Ingredients

Component	CAS Number	EC-No.	MW	Chemical Formula
DMSO	67-68-5	200-664-3	78.13	C <sub>2</sub> H <sub>6</sub> OS

## Section III – Hazard Information

Component	Description	Volume	Safety Information
Caspase-4 Inhibitor, Z-LEVD-FMK Z-Leu-Glu(OMe)-Val-Asp (OMe)-FMK (FMK, fluoromethyl ketone)	1108-100: 2 mM in DMSO 1108-20C: 10 mM in DMSO	1108-100: 100 µl 1108-20C: 20 µl	See below

### DMSO:

#### Emergency Overview

**OSHA Hazards:** Combustible Liquid, Target Organ Effect

**Target Organs:** Eyes, Skin

**GHS Classification:** Flammable liquids (Category 4)

**GHS Label elements, including precautionary statements**

**Pictogram:** none

**Signal word:** Warning

**Hazard statement(s):** H227 Combustible liquid

**Precautionary statement(s):** none

#### HMIS Classification

**Health hazard:** 0

**Chronic Health Hazard:** \*

**Flammability:** 2

**Physical hazards:** 0

#### NFPA Rating

**Health hazard:** 0

**Fire:** 2

**Reactivity Hazard:** 0

#### Potential Health Effects

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

**Aggravated Medical Condition:** Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.

## Section IV – First Aid Measures

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## Section V – Fire-Fighting Measures

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous decomposition products formed under fire conditions— see Section X

**Further information:** Use water spray to cool unopened containers.

## Section VI – Accidental Release Measures

**Personal precautions:** Avoid breathing vapors, mist or gas. Avoid dust formation. Ensure adequate ventilation.

**Environmental precautions:** Do not let product enter drains.

**Methods for cleaning up:** Sweep up and keep in suitable, closed containers for disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

## Section VII – Handling and Storage

### Precautions for safe handling

Keep away from sources of ignition—no smoking. Take measures to prevent the build up electrostatic charge.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: -20 °C

## Section VIII – Exposure Controls/Personal Protection

### DMSO:

Components	CAS Number	Value	Control Parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

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.

#### Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## Section IX – Physical and Chemical Properties

Property	DMSO
<b>Appearance:</b>	Clear liquid
<b>pH:</b>	No data available
<b>Water Solubility:</b>	Completely miscible
<b>Other Solubility:</b>	No data available
<b>Boiling Point (°C):</b>	189 °C (372 °F)
<b>Melting Point (°C):</b>	16-19 °C (61-66 °F)
<b>Flash Point (°C):</b>	87 °C (189 °F)
<b>Ignition Temp. (°C):</b>	301 °C (574 °F)
<b>Density:</b>	1.1 g/ml

## Section X – Stability and Reactivity

Property	DMSO
<b>Chemical stability:</b>	Stable under recommended storage conditions
<b>Conditions to avoid:</b>	Not available
<b>Materials to avoid:</b>	Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents
<b>Hazardous decomposition products:</b>	Carbon oxides, sulfur oxides

## Section XI – Toxicological Information

### DMSO

**Acute toxicity:** LD50 Oral - rat - 14,500 mg/kg

LC50 Inhalation - rat - 4 h - 40250 ppm

LD50 Dermal - rabbit - > 5,000 mg/kg

**Skin corrosion/irritation:** Skin – rabbit – no skin irritation – 4h

**Serious eye damage/eye irritation:** Eyes – rabbit – mild eye irritation

**Respiratory/skin sensitization:** no data available

**Germ cell mutagenicity:** Genotoxicity in vitro - mouse – lymphocyte→Cytogenetic analysis

Genotoxicity in vitro - mouse – lymphocyte→Mutation in mammalian somatic cells.

Genotoxicity in vivo - rat – Intraperitoneal→ Cytogenetic analysis

Genotoxicity in vivo - mouse – Intraperitoneal→DNA damage

**Carcinogenicity:** Carcinogenicity – rat – Oral→Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin & Appendages: Other: Tumors.

Carcinogenicity – mouse – Oral→Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin & Appendages: Other: Tumors.

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

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** Reproductive toxicity – rat – Intraperitoneal→Effects on Fertility: Abortion.

Reproductive toxicity – rat – Intraperitoneal→Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity – rat – Subcutaneous→ Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).

Reproductive toxicity –mouse – Oral→Effects on Fertility: Post-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.  
**Teratogenicity:** Developmental Toxicity - mouse – Intraperitoneal→Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system  
**Specific target organ toxicity – single exposure (GHS):** no data available  
**Specific target organ toxicity – repeated exposure (GHS):** no data available  
**Aspiration hazard:** no data available  
**Potential Health Effects**  
**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin:** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes:** May cause eye irritation.  
**Ingestion:** May be harmful if swallowed.  
**Aggravated Medical Condition:** Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.  
Signs and Symptoms of Exposure: Effects due to ingestion may include: nausea, fatigue, and/or headache.  
**Additional Information:** RTECS: PV6210000

## Section XII – Ecological Information

### **DMSO:**

**Toxicity:** Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h; LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h;  
Toxicity to daphnia and other aquatic invertebrates; EC50 - Daphnia pulex (Water flea) - 27,500 mg/l  
Toxicity to algae EC50 - Lepomis macrochirus (Bluegill) - > 400,000 mg/l - 96 h  
**Persistence and degradability:** no data available  
**Bioaccumulative potential:** no data available  
**Mobility in soil:** no data available  
**PBT and vPvB assessment:** no data available  
**Other adverse effects:** no data available

## Section XIII – Disposal Information

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company.  
**Contaminated packaging:** Dispose of as unused product.

## Section XIV – Transport Information

### **DMSO**

**DOT (US):** UN-Number: 1993 Class: CBL Packing group: III; Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide)  
Marine pollutant: No; Poison Inhalation Hazard: No  
**IMDG:** Not dangerous goods  
**IATA:** Not dangerous goods

## Section XV – Regulatory Information

**OSHA Hazards:** DMSO: Combustible Liquid, Target Organ Effect  
**DSL Status:** All components of this product are on the Canadian DSL list.  
**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.  
**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.  
**SARA 311/312 Hazards:** DMSO: Fire Hazard, Chronic Health Hazard  
**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.  
**Pennsylvania Right To Know Components:** Dimethyl sulfoxide CAS-No. 67-68-5  
**New Jersey Right To Know Components:** Dimethyl sulfoxide CAS-No. 67-68-5  
**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

**EU Regulations:**

<b>Component</b>	<b>Risk Phrases</b>	<b>Safety Phrases</b>
DMSO	R10, R36/37/38	S24/25, S36/37/39, S45

**Section XVI - Disclaimer**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. PromoCell shall not be held liable for any damage resulting from handling or from contact with the above product

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FOR IN VITRO RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC PROCEDURES.

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