

Material Safety Data Sheet

according to EC-Regulation No. 1272/2008

updated: 01/2018

Version: 1.0

Section I - Product and Company Information

Product Name	Glucose Uptake Assay Kit II
Product Number	PK-CA577-K666
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

Product Name/Chemical Name	CAS-No.	EC-No.	MW	Chemical Formula
MOPS	1132-61-2	214-478-5	209.26	C7H15NO4S
DMSO	67-68-5	200-664-3	78.13	C2H6OS

Section III – Hazard Information

Component	Description	Volume	Safety Information
Extraction Buffer	Proprietary Buffer	17 ml	No hazards
Neutralization Buffer	Proprietary Buffer (contains MOPS)	2 ml	See below
2-Deoxyglucose (2-DG, 10mM)	Liquid	1 ml	No hazards
2-DG Uptake Assay Buffer	Proprietary Buffer	10 ml	No hazards
Enzyme Mix	Lyophilized	1 vial	No hazards
PicoProbe™	In DMSO	0.2 ml	See below
2-DG6P Standard	Lyophilized (contains 2-DG6P sodium salt)	1 vial	No hazards

MOPS:

Emergency Overview

OSHA Hazards: Irritant

GHS Classification: Acute toxicity, Oral (Category 5)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram:



Signal word: Warning

Hazard statement(s): H303 May be harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s): P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

HMIS Classification

Health hazard: 2

Flammability: 1

Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire: 1

Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: May be harmful if swallowed.

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 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: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section V – Fire-Fighting Measures

DMSO:

Suitable extinguishing media: For small (incipient) fires, use media such as “alcohol” foam, dry chemical or carbon dioxide. For large fires, apply water foam as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

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

Hazardous combustion products: Hazardous combustion products formed under fire conditions — no data available.

Further information: Use water spray to cool unopened containers.

Section VI – Accidental Release Measures

Personal precautions: Use personal protection equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section VII – Handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

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

MOPS, 2-DG6P:

Contain no substances with occupational exposure limit values.

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

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals. 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	MOPS
Appearance:	Clear liquid	White powder
pH:	No data available	2.5
Water Solubility:	Completely miscible	209 g/l
Other Solubility:	No data available	No data available
Boiling Point (°C)	189 °C (372 °F)	No data available
Melting Point (°C)	16-19 °C (61-66 °F)	277 °C (531°F)
Flash Point (°C):	87 °C (189 °F)	110 °C (230°F)
Ignition Temperature (°C):	301 °C (574 °F)	No data available
Density:	1.1 g/ml	No data available

Section X – Stability and Reactivity

Property	DMSO	MOPS
Chemical stability:	Stable under recommended storage conditions	
Conditions to avoid:	Heat, Flames, Sparks	No data available
Materials to avoid:	Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents	Strong oxidizing agents, Strong bases
Hazardous decomposition products:	Carbon oxides, sulfur oxides	Carbon oxides, Nitrogen oxides, Sulfur oxides

Section XI – Toxicological Information

MOPS:

Acute toxicity: LD50 Oral – rat – 2,000 mg/kg

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:

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: no data available

Teratogenicity: no data available

Specific target organ toxicity – single exposure (GHS): Inhalation – may cause respiratory irritation.

Specific target organ toxicity – repeated exposure (GHS): no data available

Aspiration hazard: no data available

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional information: RTECS: QE9104530

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 or 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 and appendages: other: tumors.

Carcinogenicity – mouse – Oral -> Tumorigenic: equivocal tumorigenic agent by RTECS criteria. Leukemia skin and 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/fetus: Fetotoxicity (expect death, e.g. stunted fetus). Specific developmental abnormalities: musculoskeletal system.

Teratogenicity: Developmental toxicity – mouse – Intraperitoneal: Effects on embryo/fetus: Fetotoxicity (expect 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

MOPS:

Persistence and degradability: no data available

Toxicity: Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (Water flea) – >100 mg/l – 48 h

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

DMSO:

Elimination information (persistence and degradability): no data available

Ecotoxicity effects: 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

Further information on ecology: no data available

Section XIII – Disposal Information

Product: Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

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

MOPS, 2-DG6P:

DOT (US): Not dangerous goods.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

Section XV – Regulatory Information

OSHA Hazards: MOPS: Irritant

DMSO: Combustible liquid, Target organ effect

SARA 302 Components: SARA 302: No chemical 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: MOPS: Acute Health Hazard

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: MOPS, CAS-No. 1132-61-2

Dimethyl sulfoxide CAS-No. 67-68-5; Revision Date: 2007-03-01

New Jersey Right To Know Components: MOPS, CAS-No. 1132-61-2

Dimethyl sulfoxide CAS-No. 67-68-5; Revision Date: 2007-03-01

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

EU Regulations:

Component	Risk Phrases	Safety Phrases
MOPS	R36/37/38	S22, S24/25, S36/37/39, S45
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.

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

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