

Safety Data Sheet (SDS) According to the REACH Regulation (EC) No. 1907/2006

Issuing Date: 2017-08-20

Version: 1

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

1.1. Product identifier

Product No	12664
Product name	Mitochondrial Membrane Potential Assay Kit (I)
Kit Component	JC-1 CCCP Phosphate Buffered Saline (PBS-20X)
Reach registration number	This substance/mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006.

Contains

Chemical Name	Index No.	CAS No
dimethyl sulfoxide (90 - 100%)	Not Listed	67-68-5

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

Identified uses For research use only

1.3. Details of the supplier of the safety data sheet

Importer (Applicable in EU only)	Manufacturer
Cell Signaling Technology Europe B.V. Schuttersveld 2 2316 ZA Leiden The Netherlands TEL: +31 (0)71 7200 200 FAX: +31 (0)71 891 0098	Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400

Website	www.cellsignal.com
E-mail Address	info@cellsignal.eu

1.4. Emergency telephone number

CHEMTREC 24 hours a day, 7 days a week, 365 days a year
+1 703 527 3887 (INTERNATIONAL) +1 800 424 9300 (NORTH AMERICA)

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Classification and label elements described below are inclusive of all hazards of the combined kit. The most severe classifications are listed for each endpoint. Refer to individual kit component SDS for classification and label elements for each component present in the kit.

Skin corrosion/irritation	Category 2 - (H315)
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Serious eye damage/eye irritation

Category 2 - (H319)

2.2. Label elements



Signal word

Warning

Hazard statement(s)

H315 - Causes skin irritation

H319 - Causes serious eye irritation

Precautionary statement(s)

P264 - Wash face, hands and any exposed skin 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

P337 + P313 - If eye irritation persists: Get medical advice/attention

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical advice/attention

2.3. Other hazards

None under normal use conditions.

SECTION 3. Composition/information on ingredients

Kit Component Name

JC-1

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
Benzimidazolocarbo-cyanine iodide, 5,5',6,6'-tetrachloro-1,1',3,3'-tetraethyl-	3520-43-2	100	-	-	no data available

Kit Component Name

CCCP

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
dimethyl sulfoxide	67-68-5	60-100	200-664-3	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	no data available
[(3-chlorophenyl)hydrazono]malononitrile	555-60-2	0.5-1.5	209-103-7	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	no data available

Kit Component Name

Phosphate Buffered Saline (PBS-20X)

The product contains no substances which at their given concentration, are considered to be hazardous to health

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation occurs, get medical advice/attention.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

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

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms:

, Irritating to eyes and skin.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Cool containers / tanks with water spray. Use: Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol-resistant foam.
Unsuitable Extinguishing Media	No information available.

5.2. Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition. Risk of ignition.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. Heat, flames and sparks. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevention of fire and explosion. A vapor suppressing foam may be used to reduce vapors. Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

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Methods for cleaning up

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges.

6.4. Reference to other sections

See Sections 8 & 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. There is a hazard associated with rags, paper or any other material used to remove spills which become soaked with product. Avoid accumulation of these: they are to be disposed of safely after use. Avoid static electricity build up with connection to earth. Use only in area provided with appropriate exhaust ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from open flames, hot surfaces and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep away from direct sunlight.

7.3. Specific end use(s)

Use as a laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
dimethyl sulfoxide					Skin Ceiling / Peak: 100 ppm Ceiling / Peak: 320 mg/m ³ TWA: 50 ppm TWA: 160 mg/m ³
[(3-chlorophenyl)hydrazono] malononitrile		STEL 15 mg/m ³ TWA 5 mg/m ³ Skin	TWA 5 mg/m ³ P*		Skin Ceiling / Peak: 2 mg/m ³ TWA: 2 mg/m ³
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
dimethyl sulfoxide				TWA 50 ppm iho*	TWA 50 ppm TWA 160 mg/m ³
[(3-chlorophenyl)hydrazono] malononitrile			Huid* STEL 10 mg/m ³ TWA 1 mg/m ³	TWA 1 mg/m ³ STEL 5 mg/m ³ iho*	
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
dimethyl sulfoxide	H* TWA 50 ppm TWA 160 mg/m ³	H* TWA 50 ppm TWA 160 mg/m ³ STEL 100 ppm STEL 320 mg/m ³			
[(3-chlorophenyl)hydrazono] malononitrile		H*		TWA 5 mg/m ³ S* STEL 10 mg/m ³	TWA 5 mg/m ³ Skin

8.2. Exposure controls

Appropriate engineering controls

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Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tightly fitting safety goggles.

Skin protection

Hand protection

Impervious gloves.

Other

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental Exposure Controls

No information available.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Information on the known physical chemical properties of each component within Kit are given below. If not included, information is either not available or not applicable. Refer to individual kit component SDS for further information.

Kit Component	JC-1
Physical state	Solid
Appearance	Lyophilized
Color	Red

Kit Component	CCCP
Physical state	Liquid
Color	Yellow
Odor	Sulphurous
Boiling point/range (°C) VALUE	189
Boiling point/range (°F) VALUE	372.2
Melting point (°C) VALUE	16-19
Melting point/range (°F) VALUE	60.8-66.2
Flash point (°C) VALUE	87
Flash point (°F) VALUE	188.6
Vapor pressure	0.55 hPa @ 20 °C
Vapor density	2.7
Specific Gravity/Relative Density	1.1
Density	1.1 g/mL
Solubility	Soluble in water
Partition coefficient:	-2.03

Kit Component	Phosphate Buffered Saline (PBS-20X)
Physical state	Liquid
Color	Colorless
pH VALUE	7.4

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

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Hazardous polymerization Hazardous reactions

Hazardous polymerization does not occur.
None under normal processing. Vapors may form explosive mixtures with air. 10.5.
Incompatible materials.

10.4. Conditions to avoid

Heating in air.

10.5. Incompatible materials

Strong oxidizing agents. Acyl, aryl, and nonmetal halides. Boron compounds. Metal salts of oxoacids.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors: Sulfur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product Information

Refer to kit component SDS for full toxicological information. This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Kit Component	CCCP
ATEmix (oral)	5942 mg/kg
ATEmix (dermal)	17216 mg/kg
ATEmix (inhalation-dust/mist)	50 mg/L

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
dimethyl sulfoxide	14500 mg/kg (Rat)	40000 mg/kg (Rat)	-
[(3-chlorophenyl)hydrazono]malono nitrile	= 100 mg/kg (Rat)	= 300 mg/kg (Rat)	= 0.5 mg/l (Rat) Dust/mist

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract

Eye contact Avoid contact with eyes. Contact with eyes may cause irritation.

Kit Component	CCCP
Eye contact	Severely irritating to eyes

Skin contact

Kit Component	CCCP
Skin contact	Components of this product may be absorbed into the body through the skin. Irritating to skin

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Symptoms Contains kit components which may cause the following effects, refer to individual

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component SDSs for full information on symptoms:

Irritating to eyes and skin.

Skin and Eye Corrosion/Irritation

Kit Component	CCCP
Skin corrosion/irritation	Irritating to skin
Serious eye damage/eye irritation	Causes serious eye irritation

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenic effects No information available.

Reproductive toxicity No information available.

Systemic Target Organ Toxicity (STOT) No information available

Kit Component	CCCP
Other adverse effects	(3-chlorophenyl)hydrazono]malonitrile is a suspected endocrine disruptor

Aspiration Hazard No information available.

SECTION 12: Ecological information

12.1. Toxicity

Product Information No information available

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
dimethyl sulfoxide	EC50 12350 - 25500 mg/L (Skeletonema costatum) 96 h	LC50 40 g/L (Lepomis macrochirus) 96 h LC50 33 - 37 g/L (Oncorhynchus mykiss) 96 h LC50 34000 mg/L (Pimephales promelas) 96 h LC50 41.7 g/L (Cyprinus carpio) 96 h	EC50 7000 mg/L (Daphnia species) 24 h

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	Octanol-Water Partition Coefficient
dimethyl sulfoxide	-2.03

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

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12.6. Other adverse effects

No information available

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
[(3-chlorophenyl)hydrazono]malono nitrile	Group III Chemical	-	-

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Other information	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG/IMO

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated

ADR/RID

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

SECTION 15: Regulatory information

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

Candidate List of Substances of Very High Concern for Authorization Information

This product does not contain Substances of Very High Concern (SVHC).

SEVESO Directive Information

This product does not contain substances identified in the SEVESO Directive.

International inventories

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TSCA 8(b)	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

International inventories legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Full text of H-Statements referred to under Sections 2 and 3

H301 - Toxic if swallowed

H311 - Toxic in contact with skin

H331 - Toxic if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Classification procedure: Expert judgment and weight of evidence determination.

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.