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

Issuing Date: 2018-05-04 **Revision Date:** 2024-03-08 **Version:** 2

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

1.1. Product identifier

Product No 12581

Product name Glucose-6-Phosphate Dehydrogenase (G6PD) Activity Assay Kit

Kit Component
13865: Tris Assay Buffer
96772: G6PDH Substrate (40X)
80415: G6PDH Cofactor (100X)
49233: NADP+ (100X)
76535: G6PDH Developer (100X)
38611: G6PDH Positive Control (100X)
7018: PathScan® Sandwich ELISA Lysis Buffer (1X)

Hazardous Components
80415: G6PDH Cofactor (100X)
49233: NADP+ (100X)
7018: PathScan® Sandwich ELISA Lysis Buffer (1X)

Contains

Chemical name	Index No.	CAS No
d-Glucose, 6-(dihydrogen phosphate), monosodium salt (90 - 100%)	-	54010-71-8
7-sodiooxy-3H-phenoxazin-3-one 10-oxide (90 - 100%)	-	62758-13-8
nadide phosphate hydrate (90 - 100%)	-	53-59-8
Dehydrogenase, lipoamide (70 - 80%)	-	9001-18-7
trometamol (30 - 40%)	-	77-86-1
acetone (0 - 10%)	606-001-00-8	67-64-1
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether (0 - 10%)	Not Listed	9002-93-1
sodium fluoride (0 - 10%)	009-004-00-7	7681-49-4
Dehydrogenase, glucose 6-phosphate (0 - 10%)	-	9001-40-5

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

Identified uses For Research Use Only. Not for Use in Diagnostic Procedures.

1.3. Details of the supplier of the safety data sheet

Importer
Cell Signaling Technology Europe B.V.
Dellaertweg 9b
2316 WZ Leiden
The Netherlands
TEL: +31 (0)71 7200 200
FAX: +31 (0)71 891 0019

Manufacturer
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

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity - single exposure (STOT SE)	Category 3 - (H335)

2.2. Label elements

Signal word
Warning

Hazard statement(s)
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary statement(s)
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P337 + P313 - If eye irritation persists: Get medical advice/attention.

P362 + P364 - Take off contaminated clothing and wash it before reuse.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards

95 % of the mixture consists of ingredient(s) of unknown acute toxicity.

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

SECTION 3. Composition/information on ingredients

3.1 Substances

Kit Component **13865: Tris Assay Buffer**

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
trometamol	77-86-1	0.45	201-064-4	-	no data available

Kit Component **96772: G6PDH Substrate (40X)**

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
d-Glucose, 6-(dihydrogen phosphate), monosodium salt	54010-71-8	100	258-921-0	-	no data available

Kit Component **80415: G6PDH Cofactor (100X)**

WARNING: Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
Dehydrogenase, lipoamide	9001-18-7	60-100	232-587-6	-	no data available
trometamol	77-86-1	10-30	201-064-4	-	no data available

Kit Component **49233: NADP+ (100X)**

WARNING: Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
nadide phosphate hydrate	53-59-8	60-100	200-178-1	-	no data available
acetone	67-64-1	1-5	200-662-2	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225) (EUH066)	no data available

Kit Component **76535: G6PDH Developer (100X)**

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
7-sodiooxy-3H-phenoxazin-3-one 10-oxide	62758-13-8	90-100	263-718-5	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	no data available

Kit Component **38611: G6PDH Positive Control (100X)**

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
trometamol	77-86-1	5-10	201-064-4	-	no data available
Dehydrogenase, glucose 6-phosphate	9001-40-5	0.1	232-602-6	-	no data available

Kit Component **7018: PathScan® Sandwich ELISA Lysis Buffer (1X)**

WARNING: Causes serious eye irritation

Chemical name	CAS No	Weight-%	EC No	Classification (1272/2008)	REACH Registration Number
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	1	618-344-0	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	no data available
sodium fluoride	7681-49-4	0.1-1	231-667-8	Acute Tox. 3 (H301) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) (EUH032)	no data available

For the full text of the R-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 Move to fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Eye contact Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water and afterwards drink plenty of water. If symptoms persist, call a physician.

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

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 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable Extinguishing Media No information available

5.2. Special hazards arising from the substance or mixture

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

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 Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid dust formation. Avoid breathing vapors or mists. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not let product enter drains. See Section 12 for more information.

6.3. Methods and material for containment and cleaning up

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

Methods for cleaning up Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

See Sections 8 & 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Remove and wash contaminated clothing before re-use. Ensure adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Use as a laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limit values					
Chemical name	**European Union**	**United Kingdom**	**France**	**Spain**	**Germany**
acetone	TWA 500 ppm TWA 1210 mg/m³	STEL 1500 ppm STEL 3620 mg/m³ TWA 500 ppm TWA 1210 mg/m³	TWA 500 ppm TWA 1210 mg/m³ STEL 1000 ppm STEL 2420 mg/m³	TWA 500 ppm TWA 1210 mg/m³	TWA: 500 ppm TWA: 1200 mg/m³ Ceiling / Peak: 1000 ppm Ceiling / Peak: 2400 mg/m³
sodium fluoride	TWA 2.5 mg/m³	STEL 7.5 mg/m³ TWA 2.5 mg/m³	TWA 2 mg/m³ TWA 2.5 mg/m³	TWA 2.5 mg/m³	TWA: 1 mg/m³ Skin
Chemical name	**Italy**	**Portugal**	**Netherlands**	**Finland**	**Denmark**
acetone	TWA 500 ppm TWA 1210 mg/m³	TWA 500 ppm STEL 750 ppm C(A4)	STEL 2420 mg/m³ TWA 1210 mg/m³	TWA 500 ppm TWA 1200 mg/m³ STEL 630 ppm STEL 1500 mg/m³	TWA 250 ppm TWA 600 mg/m³
sodium fluoride	TWA 2.5 mg/m³	TWA 2.5 mg/m³ C(A4)		TWA 2.5 mg/m³	TWA 2.5 mg/m³
Chemical name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
acetone	STEL 2000 ppm STEL 4800 mg/m³ TWA 500 ppm TWA 1200 mg/m³	TWA 500 ppm TWA 1200 mg/m³ STEL 1000 ppm STEL 2400 mg/m³	TWA 600 mg/m³ STEL 1800 mg/m³	TWA 125 ppm TWA 295 mg/m³ STEL 156.25 ppm STEL 368.75 mg/m³	TWA 500 ppm TWA 1210 mg/m³
sodium fluoride			TWA 2 mg/m³	TWA 0.5 mg/m³ STEL 1.5 mg/m³	TWA 2.5 mg/m³ STEL 7.5 mg/m³

Biological limit values					
Chemical name	**European Union**	**United Kingdom**	**France**	**Spain**	**Germany**
acetone			100	50	Biologische Grenzwerte nach TRGS 903 sind zu beachten
sodium fluoride			3 10	2 3	Biologische Grenzwerte nach TRGS 903 sind zu beachten
Chemical name	**Austria**	**Switzerland**	**Poland**	**Norway**	**Ireland**
acetone		80			
sodium fluoride		4			

8.2. Exposure controls

Appropriate engineering controls
Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with side-shields.
Skin protection Wear protective gloves and protective clothing
Hand protection Impervious gloves.
Other Wear suitable protective clothing.
Respiratory protection In the case of dust or aerosol formation use respirator with an approved filter.
Recommended filter: Type ABEK-P2

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	**13865: Tris Assay Buffer**
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	8

Kit Component	**96772: G6PDH Substrate (40X)**
Physical state	Solid
Appearance	Powder, Lyophilized
Color	White

Kit Component	**80415: G6PDH Cofactor (100X)**
Physical state	Solid
Appearance	Powder, Lyophilized
Color	Yellow

Kit Component	**49233: NADP+ (100X)**
Physical state	Solid
Appearance	Powder, Lyophilized
Color	Off-white
Solubility	Soluble in water

Kit Component	**76535: G6PDH Developer (100X)**
Physical state	Solid
Appearance	Powder, Lyophilized
Color	Grey

Kit Component	**38611: G6PDH Positive Control (100X)**
Physical state	Solid
Appearance	Powder, Lyophilized
Color	White

Kit Component	**7018: PathScan® Sandwich ELISA Lysis Buffer (1X)**
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	7.5

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

Hazardous polymerization Hazardous polymerization does not occur.
Hazardous reactions None under normal processing

10.4. Conditions to avoid

None known based on information supplied

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides (COx)
Nitrogen oxides (NOx)
Phosphorous oxides

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product 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.

Component Information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
trometamol	5900 mg/kg (Rat)	-	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	= 1800 mg/kg (Rat)	-	-
sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-

Information on likely routes of exposure

Inhalation

Kit Component **80415: G6PDH Cofactor (100X)**
Inhalation May cause irritation of respiratory tract

Kit Component **49233: NADP+ (100X)**
Inhalation Inhalation of dust in high concentration may cause irritation of respiratory system

Eye contact

Kit Component **80415: G6PDH Cofactor (100X)**
Eye contact Irritating to eyes

Kit Component **49233: NADP+ (100X)**

Eye contact	Irritating to eyes
Kit Component	**7018: PathScan® Sandwich ELISA Lysis Buffer (1X)**
Eye contact	Expected to be an irritant based on components

Skin contact

Kit Component	**80415: G6PDH Cofactor (100X)**
Skin contact	Irritating to skin.
Kit Component	**49233: NADP+ (100X)**
Skin contact	Irritating to skin.

Ingestion There is no data available for this product.

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

Symptoms Irritating to eyes and skin.

Skin and Eye Corrosion/Irritation No information available

Sensitization No information available

Mutagenic effects No information available.

Carcinogenic effects No information available

Reproductive toxicity No information available.

Systemic Target Organ Toxicity (STOT)

Kit Component	**80415: G6PDH Cofactor (100X)**
Target Organ Effects	Respiratory system
Kit Component	**49233: NADP+ (100X)**
Target Organ Effects	Respiratory system

Aspiration Hazard No information available.

11.2. Information on other hazards

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Product Information No information available

Component Information No information available

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
acetone	-	LC50 6210 - 8120 mg/L (Pimephales promelas) 96 h LC50 8300 mg/L	EC50 12600 - 12700 mg/L (Daphnia magna) 48 h EC50 10294 - 17704

		(Lepomis macrochirus) 96 h LC50 4.74 - 6.33 mL/L (Oncorhynchus mykiss) 96 h	mg/L (Daphnia magna) 48 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h
sodium fluoride	EC50 850 mg/L (Desmodesmus subspicatus) 72 h EC50 272 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 530 mg/L (Lepomis macrochirus) 96 h LC50 180 mg/L (Pimephales promelas) 96 h LC50 38 - 68 mg/L (Oncorhynchus mykiss) 96 h LC50 830 mg/L (Lepomis macrochirus) 96 h	EC50 98 mg/L (Daphnia magna) 48 h EC50 338 mg/L (Daphnia magna) 48 h

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Chemical name	Octanol-Water Partition Coefficient
acetone	-0.24

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Endocrine disrupting properties

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	Reason for inclusion Endocrine disrupting properties, Article 57f - environment	-	-

12.7. Other adverse effects

No information available

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 Maritime transport in bulk according to IMO instruments	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

Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Chemical name	Candidate List of Substances of Very High Concern for Authorization Information	REACH Annex XVII
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether (0 - 10%)	Reason for inclusion Endocrine disrupting properties, Article 57f - environment	-

SEVESO Directive Information

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

International inventories

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

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Classification procedure: Expert judgment and weight of evidence determination.
Issuing Date: 2018-05-04
Revision Date: 2024-03-08

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.