

Product name Glucose-6-Phosphate Dehydrogenase (G6PD) Activity Assay Kit
(M)SDS Number 12581
Version 1

Issuing Date: 2024-03-22

1. Identification

Product identifier

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)

Other means of identification

(M)SDS Number 12581

Contains

Chemical name	English chemical name	CAS No
d-Glucose, 6-(dihydrogen phosphate), monosodium salt	d-Glucose, 6-(dihydrogen phosphate), monosodium salt	54010-71-8
7-sodiooxy-3H-phenoxazin-3-one 10-oxide	7-sodiooxy-3H-phenoxazin-3-one 10-oxide	62758-13-8
Dehydrogenase, lipoamide	Dehydrogenase, lipoamide	9001-18-7
trometamol	trometamol	77-86-1
acetone	acetone	67-64-1
polyethylene glycol	Polyethylene glycol	9002-93-1
p-(1,1,3,3-tetramethylbutyl)phenylether	p-(1,1,3,3-tetramethylbutyl)phenylether	
sodium fluoride	sodium fluoride	7681-49-4
Dehydrogenase, glucose 6-phosphate	Dehydrogenase, glucose 6-phosphate	9001-40-5

Details of the supplier of the safety data sheet

Product name Glucose-6-Phosphate Dehydrogenase (G6PD) Activity Assay Kit **(M)SDS Number** 12581
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Manufacturer
Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Importer
Cell Signaling Technology, Inc.
Building 7
A-SUN Science & Technology Park
399 Shengxia Road
Pudong Shanghai 201210
China
TEL: 4006-473287
FAX: (86) 21-5835-6116

Supplier
No information available

E-mail address support@cellsignal.com

Emergency telephone number

Emergency telephone 400 120 4937

Recommended use of the chemical and restrictions on use

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

Restrictions on use No information available

2. Hazard(s) identification

Emergency Overview

Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Appearance See section 9

Physical state See section 9

Odor See section 9

Classification of the substance or mixture

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Specific target organ toxicity - Single exposure	Category 3

Label elements



Signal Word
Warning

Hazard Statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation

Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray.

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Wash face, hands and any exposed skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Call a POISON CENTER or doctor if you feel unwell

Storage

Store locked up.

Disposal

Dispose of contents/container to an approved waste disposal plant

Physical and chemical hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable.

Chronic effects: Not applicable.

Environmental hazards

Not applicable.

Other hazards which do not result in classification

No information available.

3. Composition/information on ingredients

Kit Component

13865: Tris Assay Buffer

Chemical name	CAS No	Weight-%	Other information
trometamol	77-86-1	0.45	-

Kit Component

96772: G6PDH Substrate (40X)

Chemical name	CAS No	Weight-%	Other information
d-Glucose, 6-(dihydrogen phosphate), monosodium salt	54010-71-8	100	-

Kit Component

80415: G6PDH Cofactor (100X)

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

Chemical name	CAS No	Weight-%	Other information
Dehydrogenase, lipoamide	9001-18-7	60-100	-
trometamol	77-86-1	10-30	-

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

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

Chemical name	CAS No	Weight-%	Other information
nicotinamide adenine dinucleotide phosphate hydrate	53-59-8	60-100	-
acetone	67-64-1	1-5	-

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

Chemical name	CAS No	Weight-%	Other information
7-sodiooxy-3H-phenoxazin-3-one 10-oxide	62758-13-8	90-100	-

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

Chemical name	CAS No	Weight-%	Other information
trometamol	77-86-1	5-10	-
Dehydrogenase, glucose 6-phosphate	9001-40-5	0.1	-

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

WARNING: Causes serious eye irritation

Chemical name	CAS No	Weight-%	Other information
trometamol	77-86-1	0.45	-

4. First-aid measures

Description of necessary first aid measures

Inhalation Move to fresh air. Get medical attention immediately if symptoms occur.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

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

Ingestion Clean mouth with water and afterwards drink plenty of water.

Most important symptoms/effects, acute and delayed Irritating to eyes and skin.

For emergency responders No information available.

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

Unsuitable Extinguishing Media	No information available.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapors.
Special protective actions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. For personal protection see section 8.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. See Section 12 for more information.
Methods and material for containment and cleaning up	Prevent further leakage or spillage if safe to do so. Cover liquid spill with sand, earth or other noncombustible absorbent material. Pick up and transfer to properly labeled containers.
Precautions to prevent secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

Precautions for safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. See Section 8 for information on appropriate personal protective equipment.
Conditions for safe storage, including any incompatibilities Incompatible materials	Keep containers tightly closed in a dry, cool and well-ventilated place. None known based on information supplied.

8. Exposure controls/personal protection

Occupational exposure limits

Chemical name	China	ACGIH TLV
acetone - 67-64-1	TWA 300 mg/m ³ STEL 450 mg/m ³	STEL 750 ppm TWA : 500 ppm
sodium fluoride - 7681-49-4	TWA 2 mg/m ³ STEL 5 mg/m ³ TWA 2 mg/m ³ STEL 5 mg/m ³	TWA : 2.5 mg/m ³

Biological occupational exposure limits

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Chemical name	Biological standards	Monitoring and observation processes	ACGIH
acetone - 67-64-1			50
sodium fluoride - 7681-49-4			2 3

Monitoring and observation processes

No applicable information was found.

Engineering controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
Hand protection	Impervious gloves.
Respiratory protection	Use appropriate respiratory protection.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Kit Component

Physical state: Liquid
Appearance: Clear
Color: Colorless
pH: 8

96772: G6PDH Substrate (40X)

Physical state: Solid
Appearance: Powder, Lyophilized
Color: White

80415: G6PDH Cofactor (100X)

Physical state: Solid
Appearance: Powder, Lyophilized
Color: Yellow

49233: NADP+ (100X)

Physical state: Solid
Appearance: Powder, Lyophilized
Color: Off-white
Solubility: Soluble in water

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

10. Stability and reactivity

Stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to Avoid Extremes of temperature and direct sunlight.

Incompatible products Strong oxidizing agents.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapors: Nitrogen oxides (NOx), Carbon oxides (COx).

11. Toxicological information

Acute Toxicity

Numerical measures of toxicity

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

Symptoms Irritating to eyes and skin.

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

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Specific target organ toxicity (single exposure) No information available

Specific target organ toxicity (repeated exposure) No information available

Kit Component
STOT - single exposure **80415: G6PDH Cofactor (100X)**
May cause respiratory irritation

Kit Component
STOT - single exposure **49233: NADP+ (100X)**
May cause respiratory irritation

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Product Information No information available

Component Information

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 (Lepomis macrochirus) 96 h LC50 4.74 - 6.33 mL/L (Oncorhynchus mykiss) 96 h	EC50 12600 - 12700 mg/L (Daphnia magna) 48 h EC50 10294 - 17704 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

Persistence and degradability No information available

Bioaccumulative potential No information available

Chemical name	Octanol-Water Partition Coefficient
acetone	-0.24

Mobility in soil No information available

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13. Disposal considerations

Waste chemicals Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Do not empty into drains; dispose of this material and its container in a safe way.

Contaminated packaging Do not reuse empty containers.

14. Transport information

IMDG/IMO Not regulated

IATA Not regulated

China Not regulated

Special precautions for user

Please refer to the applicable dangerous goods regulations for additional information

15. Regulatory information

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

National regulations

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Catalog of occupational hazard factors: Not applicable
Catalog of occupational diseases: Not applicable

Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals Not applicable

GB 18218-2009 Identification of major hazard installations for dangerous chemicals Not applicable

List of hazardous chemicals under priority management Not applicable

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used

Inventory of highly toxic goods Not applicable

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China Not applicable

Measures for the Environmental Management of New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances Contact supplier for inventory compliance status.

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

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16. Other information

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Revision Note The symbol (*) in the margin of this SDS indicates that this line has been revised.

Abbreviations and acronyms

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA:	Time weighted average	STEL:	Short term exposure limit
Ceiling:	Maximum limit value:	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)

World Health Organization

Disclaimer

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End of Safety Data Sheet