

Issuing Date: 2024-03-22

Version: 1

1. Identification

A. 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)

Product Code(s) 12581

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

Identified uses No information available

Uses advised against No information available

C. Supplier's details

Manufacturer

Cell Signaling Technology, Inc.
 3 Trask Lane
 Danvers, MA 01923
 United States
 TEL: +1 978 867 2300
 FAX: +1 978 867 2400

Supplier

Seoulin Bioscience Co., Ltd.
 경기도 성남시 분당구 대왕판교로 700
 TEL: 1670-5911
 E-mail: support@seoulin.co.kr

Supplier

Koram Biotech Co., Ltd.
 서울시 강남구 선릉로 76길 4
 Tel: 02-556-0311
 E-mail: koram@korambitech.com

For further information, please contact

Email address support@cellsignal.com

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)
 080-880-0468

2. Hazard(s) identification

A. 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

B. GHS Label elements, including precautionary statements



Signal Word

Warning

Hazard Statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Precautionary Statements - Prevention

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

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.

Precautionary Statements - Response

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.

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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

C. Other hazards which do not result in classification

Not applicable

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	-

Kit Component 49233: NADP+ (100X)

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

Chemical name	CAS No	Weight-%	Other information
nadide 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
polyethylene glycol	9002-93-1	1	-
p-(1,1,3,3-tetramethylbutyl)phenylether			
sodium fluoride	7681-49-4	0.1-1	-

4. First-aid measures

- | | |
|-----------------------------------|--|
| A. In case of eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| B. In case of skin contact | Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician. |
| C. In case of inhalation | Move to fresh air. Get medical attention immediately if symptoms occur. |
| D. In case of ingestion | Clean mouth with water and afterwards drink plenty of water. |

E. Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians	Treat symptomatically.
Symptoms	Irritating to eyes and skin.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

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

Unsuitable Extinguishing Media No information available.

B. Specific hazards arising from the chemical Thermal decomposition can lead to release of irritating gases and vapors.

C. Special Protective Equipment for Firefighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

B. Environmental precautions See Section 12 for additional Ecological Information.

C. 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 Pick up and transfer to properly labeled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

A. Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Wash thoroughly after handling. Ensure adequate ventilation.

B. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Protect from moisture.

Incompatible products Strong oxidizing agents.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. When using, do not

eat, drink or smoke. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

8. Exposure controls/personal protection

A. Control Parameters

Occupational exposure limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	Korea	ACGIH TLV
acetone	STEL 750 ppm STEL 1782 mg/m ³ TWA 500 ppm TWA 1188 mg/m ³	STEL 750 ppm TWA : 500 ppm
sodium fluoride	TWA 2.5 mg/m ³	TWA : 2.5 mg/m ³

B. Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Environmental exposure controls No information available.

C. Personal Protective Equipment

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment.

Eye protection Tight sealing safety goggles.

Hand protection Impervious gloves.

Body protection Wear suitable protective clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

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

10. Stability and reactivity

A. Chemical stability and possibility of hazardous reactions

Stability	Stable under normal conditions.
------------------	---------------------------------

Possibility of hazardous reactions	None under normal processing.
---	-------------------------------

Explosion Data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

B. Conditions to Avoid	Extremes of temperature and direct sunlight.
-------------------------------	--

C. Incompatible products	Strong oxidizing agents.
---------------------------------	--------------------------

D. Hazardous Decomposition Products	Thermal decomposition can lead to release of irritating gases and vapors: Nitrogen oxides (NO _x), Carbon oxides (CO _x).
--	---

11. Toxicological information

A. Information on the likely routes of exposure

Product Information

Inhalation

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

Inhalation May cause irritation of respiratory tract

Kit Component **49233: NADP+ (100X)**
Inhalation May cause irritation of respiratory tract

Ingestion There is no data available for this product

Eye contact

Kit Component **80415: G6PDH Cofactor (100X)**
Eye contact May cause irritation

Kit Component **49233: NADP+ (100X)**
Eye contact May cause irritation

Kit Component **7018: PathScan® Sandwich ELISA Lysis Buffer (1X)**
Eye contact May cause irritation

Skin contact

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

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

Symptoms Irritating to eyes and skin.

B. Health hazards information

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

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.

**Specific target organ toxicity
(STOT) – single exposure** No information available

Specific target organ toxicity (STOT) – repeated exposure No information available

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

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

Aspiration hazard No information available.

12. Ecological information

A. 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

B. Persistence and degradability No information available.

C. Bioaccumulative potential No information available.

Chemical name	Octanol-Water Partition Coefficient
acetone	-0.24

D. Mobility in soil No information available.

E. Other adverse effects No information available.

13. Disposal considerations

A. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

B. Disposal considerations

Contaminated packaging Do not reuse empty containers.

14. Transport information

A. **UN number** Not regulated
 B. **UN proper shipping name** Not regulated
 C. **Transport hazard class(es)** Not regulated
 D. **Packing group** Not regulated
 E. **Marine Pollutant** Not regulated
 F. **Special precautions for user** No information available

15. Regulatory information

A. **Industrial Safety and Health Law** Not applicable

Harmful substances subject to control Not applicable

Harmful agents subject to work environment monitoring Not applicable

Harmful agents subject to workers requiring health examination Not applicable

B. **Chemicals Control Act** not applicable
Chemicals Control Act (CCA) - Accident Precaution Chemicals Not applicable

C. **Safety Control of Dangerous Substances Act** No information available

D. **Wastes Management** Dispose of waste in accordance with environmental legislation.

E. **Other Regulations** No information available

International inventories

TSCA 8(b) Contact supplier for inventory compliance status.
DSL/NDL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Contact supplier for inventory compliance status.
KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AICS Contact supplier for inventory compliance status.

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

DSL/NDL - *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*

16. Other information

A. Information source and references

Prepared By No information available.

B. Issuing Date: 2024-03-22

C. Revision number and date

Version: 1

D. Other information .

Key or legend to abbreviations and acronyms used in the safety data sheet

IMDG International Maritime Dangerous Goods (IMDG)

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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) (AELG(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

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.

End of Safety Data Sheet