



**Safety Data Sheet (SDS)** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2018-05-04

**Revision Date:** 2024-03-08

**Version:** 2

## SECTION 1. Identification

### 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)

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Manufacturer, importer, supplier**

**Manufacturer address** 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  
**Email address** support@cellsignal.com  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2
<b>Specific target organ toxicity - single exposure (STOT SE)</b>	Category 3

### GHS Label elements, including precautionary statements

**Signal Word**

Warning

**Hazard statement(s)**

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

**Precautionary Statement(s)**

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.

IF ON SKIN: Wash with plenty of soap and water

Take off contaminated clothing and wash before reuse

If skin irritation occurs: Get medical advice/attention

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 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

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

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

**Supplementary Hazard Information****Hazards not otherwise classified (HNO C)**

Not applicable.

**Unknown Acute Toxicity** 95% of the mixture consists of ingredient(s) of unknown acute toxicity

<b>SECTION 3. Composition/information on ingredients</b>
--

**Kit Component** 13865: Tris Assay Buffer

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

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

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

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

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

Chemical name	CAS No	Weight-%
---------------	--------	----------

Dehydrogenase, lipoamide	9001-18-7	60-100
trometamol	77-86-1	10-30

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

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

Chemical name	CAS No	Weight-%
niadide phosphate hydrate	53-59-8	60-100
acetone	67-64-1	1-5

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

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

## SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Ingestion</b>	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.

**Most important symptoms and effects, both acute and delayed**

Irritating to eyes and skin.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

**General advice**  
**Protection of first-aiders**

For further assistance, contact your local Poison Control Center.  
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

**SECTION 5. Fire-fighting measures****Extinguishing media**

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

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.  
**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. Accidental release measures****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.

**Other information** No information available.

**Environmental precautions**

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

**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.

**SECTION 7. Handling and storage****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.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.  
**Packaging material** No information available.  
**Incompatible products** Strong oxidizing agents

## SECTION 8. Exposure controls/personal protection

### Control parameters

Occupational exposure limit values			
Chemical name	ACGIH TLV	OSHA PEL	NIOSH REL
acetone	STEL : 750 ppm TWA : 500 ppm	TWA : 1000 ppm TWA : 2400 mg/m <sup>3</sup>	IDLH : 2500 ppm TWA : 250 ppm TWA : 590 mg/m <sup>3</sup>
sodium fluoride	TWA : 2.5 mg/m <sup>3</sup>	TWA : 2.5 mg/m <sup>3</sup>	IDLH : 250 mg/m <sup>3</sup> TWA : 2.5 mg/m <sup>3</sup>

(vacated) = Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. 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.

### Information on basic physical and chemical properties

<b>Kit Component</b>	<b>13865: Tris Assay Buffer</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH	8
<b>Kit Component</b>	<b>96772: G6PDH Substrate (40X)</b>
Physical state	Solid
Appearance	Powder, Lyophilized
Color	White
<b>Kit Component</b>	<b>80415: G6PDH Cofactor (100X)</b>
Physical state	Solid
Appearance	Powder, Lyophilized
Color	Yellow
<b>Kit Component</b>	<b>49233: NADP+ (100X)</b>
Physical state	Solid
Appearance	Powder, Lyophilized
Color	Off-white
Solubility	Soluble in water
<b>Kit Component</b>	<b>76535: G6PDH Developer (100X)</b>

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**

---

**Reactivity**

No information available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

**Conditions to Avoid**

No information available

**Incompatible Materials**

Strong oxidizing agents

**Hazardous Decomposition Products**

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

---

**SECTION 11. Toxicological information**

---

**Information on likely routes of exposure****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.

**Inhalation**

<b>Kit Component</b>	<b>80415: G6PDH Cofactor (100X)</b>
Inhalation	May cause irritation of respiratory tract

<b>Kit Component</b>	<b>49233: NADP+ (100X)</b>
----------------------	----------------------------

---

**Inhalation**

Inhalation of dust in high concentration may cause irritation of respiratory system

**Eye contact****Kit Component**

Eye contact

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

Irritating to eyes

**Kit Component**

Eye contact

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

Irritating to eyes

**Kit Component**

Eye contact

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

Expected to be an irritant based on components

**Skin contact****Kit Component**

Skin contact

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

Irritating to skin.

**Kit Component**

Skin contact

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

Irritating to skin.

**Ingestion**

There is no data available for this product.

**Information on toxicological effects****Component 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 )	-

**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

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive toxicity**

No information available.

**Systemic Target Organ Toxicity  
(STOT)****Kit Component**

Target Organ Effects

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

Respiratory system

**Kit Component**

Target Organ Effects

**49233: NADP+ (100X)**Respiratory system

---

**Aspiration Hazard**

No information available.

**SECTION 12. Ecological information****Ecotoxicity****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 (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

**Bioaccumulation**

Chemical name	Octanol-Water Partition Coefficient
acetone	-0.24

**Mobility**

No information available

**Other adverse effects**

No information available.

**SECTION 13. Disposal considerations****Waste Disposal Methods**

Dispose of in accordance with all applicable national environmental laws and regulations.

**Disposal considerations**

Do not empty into drains; dispose of this material and its container in a safe way. Dispose of wastes in an approved waste disposal facility.

**SECTION 14. Transport information**

This material is not subject to regulation as a hazardous material for shipping.

**SECTION 15. Regulatory information**



**North American Inventory Listing**

This product contains a chemical or chemicals included in the Toxic Substances Control Act (TSCA) Chemical Substance Inventory, Domestic Substances List (DSL) and/or Non-Domestic Substances List (NDSL):

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
7-sodiooxy-3H-phenoxazin-3-one 10-oxide	Listed	Not Listed	Listed	Not Listed
nadide phosphate hydrate	Listed	Not Listed	Listed	Not Listed
Dehydrogenase, lipoamide	Listed	Not Listed	Listed	Not Listed
trometamol	Listed	Not Listed	Listed	Not Listed
acetone	Listed	Not Listed	Listed	Not Listed
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	Listed	Not Listed	Listed	Not Listed
sodium fluoride	Listed	Not Listed	Listed	Not Listed
Dehydrogenase, glucose 6-phosphate	Listed	Not Listed	Listed	Not Listed

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS No	SARA 313 - Threshold Values %
trisodium tetraoxovanadate	13721-39-6	1.0

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
sodium fluoride	1000 lb	Not Listed	Not Listed	Listed	Not Listed

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
acetone	5000 lb	Not Listed
sodium fluoride	1000 lb	Not Listed

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product contains the following U.S. State Right to Know chemicals:

Chemical name	New Jersey	Massachusetts	Pennsylvania
acetone	Listed	Listed	Listed

sodium fluoride	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate	Listed	Listed	Listed
trisodium tetraoxovanadate	Listed	Not Listed	Not Listed

**SECTION 16. Other information****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.

**End of Safety Data Sheet**