



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

Issuing Date: 2018-06-06

Version: 1

SECTION 1. Identification

Product identifier

Product No 7071
Product name Phototope-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody
Kit Component **Anti-rabbit IgG, HRP-linked Antibody**
Anti-biotin, HRP-linked Antibody
Biotinylated Protein Ladder
LumiGLO® Reagent A (20X)
Peroxide Reagent B (20X)

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.
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United States
TEL: +1 978 867 2300
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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

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
Serious eye damage/eye irritation	Category 2A

GHS Label elements, including precautionary statements



Signal Word

Warning.

Hazard statement(s)

Causes serious eye irritation. Causes skin irritation.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/eye protection/face protection.

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.

Supplementary Hazard Information

May produce an allergic reaction.

Hazards not otherwise classified (HNOC)

May accelerate skin absorption of other materials. Special attention needed when toxic materials are present in dimethyl sulfoxide because of enhanced skin absorption.

SECTION 3. Composition/information on ingredients

Kit Component Name Anti-rabbit IgG, HRP-linked Antibody

Chemical Name	CAS No	Weight %
glycerol	56-81-5	30-60

Kit Component Name Anti-biotin, HRP-linked Antibody

Chemical Name	CAS No	Weight %
glycerol	56-81-5	30-60

Kit Component Name Biotinylated Protein Ladder

Chemical Name	CAS No	Weight %
glycerol	56-81-5	5-10
sodium dodecyl sulphate	151-21-3	1-5
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	0.1-<1

Kit Component Name LumiGLO® Reagent A (20X)

Chemical Name	CAS No	Weight %
dimethyl sulfoxide	67-68-5	<20

Kit Component Name Peroxide Reagent B (20X)

This product does not contain substances at concentrations requiring disclosure under 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

SECTION 4. First-aid measures

Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Call a physician if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

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	For further assistance, contact your local Poison Control Center.
Protection of first-aiders	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.
Unsuitable Extinguishing Media	CAUTION: Use of water spray when fighting fire may be inefficient.

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	Avoid contact with skin, eyes and clothing. Use personal protective equipment. For personal protection see section 8. Evacuate personnel to safe areas. Ensure adequate ventilation.
Other information	No information available.

Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained.

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	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly.

SECTION 7. Handling and storage

Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Use only in area provided with appropriate exhaust ventilation. Prevent the formation of vapors, mists and aerosols. When using, do not eat, drink or smoke.

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, Acid chlorides, Acid anhydrides.

SECTION 8. Exposure controls/personal protection**Control parameters**

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
glycerol	-	TWA mist, total particulate: 15 mg/m ³ TWA mist, respirable fraction: 5 mg/m ³	-

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.

Eye/face protection	Safety glasses with side-shields.
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Provide regular cleaning of equipment, work area and clothing.

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

Kit Component	Anti-rabbit IgG, HRP-linked Antibody
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	7.5
Remarks	@ 20 °C
Kit Component	Anti-biotin, HRP-linked Antibody
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	7.5
Remarks	@ 20 °C
Kit Component	Biotinylated Protein Ladder

Physical state	Liquid
Appearance	Clear
Color	Red
pH VALUE	6-8
Remarks	@ 20 °C
Kit Component	LumiGLO® Reagent A (20X)
Physical state	Liquid
Appearance	Clear
Color	Light yellow
Kit Component	Peroxide Reagent B (20X)
Physical state	Liquid
Appearance	Clear
Color	Colorless

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.

Conditions to Avoid

Extremes of temperature and direct sunlight.

Incompatible Materials

Strong oxidizing agents. Acid chlorides. Acid anhydrides.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides (COx). Sulfur 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

Kit Component	Anti-rabbit IgG, HRP-linked Antibody
Inhalation	Avoid breathing vapors or mists May cause irritation of respiratory tract
Kit Component	Anti-biotin, HRP-linked Antibody
Inhalation	Avoid breathing vapors or mists May cause irritation of respiratory tract

Kit Component Inhalation	Biotinylated Protein Ladder Inhalation of vapors in high concentration may cause irritation of respiratory system
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Eye contact

Kit Component Eye contact	Anti-rabbit IgG, HRP-linked Antibody Avoid contact with eyes May cause slight irritation
Kit Component Eye contact	Anti-biotin, HRP-linked Antibody Avoid contact with eyes May cause slight irritation
Kit Component Eye contact	Biotinylated Protein Ladder Contact with eyes may cause irritation
Kit Component Eye contact	LumiGLO® Reagent A (20X) Avoid contact with eyes Contact with eyes may cause irritation

Skin contact

Kit Component Skin contact	Anti-rabbit IgG, HRP-linked Antibody Avoid contact with skin
Kit Component Skin contact	Anti-biotin, HRP-linked Antibody Avoid contact with skin
Kit Component Skin contact	Biotinylated Protein Ladder May cause irritation
Kit Component Skin contact	LumiGLO® Reagent A (20X) Avoid contact with skin Expected to be an irritant based on components

Ingestion

Kit Component Ingestion	Anti-rabbit IgG, HRP-linked Antibody Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Kit Component Ingestion	Anti-biotin, HRP-linked Antibody Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Kit Component Ingestion	Biotinylated Protein Ladder Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

Information on toxicological effects**Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
dimethyl sulfoxide	14500 mg/kg (Rat)	40000 mg/kg (Rat)	-
sodium dodecyl sulphate	= 1288 mg/kg (Rat) = 1783 mg/kg (Rat)	= 200 mg/kg (Rabbit)	> 3900 mg/m ³ (Rat) 1 h
(R*,R*)-1,4-dimercaptobutane-2,3-diol	400 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

Kit Component Biotinylated Protein Ladder
 Serious eye damage/eye irritation Causes serious eye irritation

Kit Component LumiGLO® Reagent A (20X)
 Skin corrosion/irritation Causes skin irritation
 Serious eye damage/eye irritation Causes serious eye irritation

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) No information available

Aspiration Hazard No information available.

SECTION 12. Ecological information**Ecotoxicity****Product Information****Component Information**

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
glycerol	-	LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h	EC50 500 mg/L (Daphnia magna) 24 h
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
sodium dodecyl sulphate	EC50 53 mg/L (Desmodesmus subspicatus) 72 h EC50 30 - 100 mg/L (Desmodesmus subspicatus) 96 h EC50 42 mg/L (Desmodesmus subspicatus) 96 h EC50 3.59 - 15.6 mg/L (Pseudokirchneriella subcapitata) 96 h EC50 117 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 8 - 12.5 mg/L (Pimephales promelas) 96 h LC50 4.1 mg/L (Leuciscus idus) 48 h LC50 22.1 - 22.8 mg/L (Pimephales promelas) 96 h LC50 4.3 - 8.5 mg/L (Oncorhynchus mykiss) 96 h LC50 4.62 mg/L (Oncorhynchus mykiss) 96 h LC50 4.2 mg/L (Oncorhynchus mykiss) 96 h LC50 7.97 mg/L (Brachydanio rerio) 96 h LC50 9.9 - 20.1 mg/L (Brachydanio rerio) 96 h LC50 4.06 - 5.75 mg/L (Lepomis macrochirus) 96 h LC50 4.2 - 4.8 mg/L (Lepomis macrochirus) 96 h LC50 4.5 mg/L (Lepomis macrochirus) 96 h LC50 5.8 - 7.5 mg/L (Pimephales promelas) 96 h LC50 10.2 - 22.5 mg/L (Pimephales promelas) 96 h LC50 6.2 - 9.6 mg/L (Pimephales promelas) 96 h LC50 13.5 - 18.3 mg/L (Poecilia reticulata) 96 h LC50 10.8 - 16.6 mg/L (Poecilia reticulata) 96 h LC50 1.31	EC50 21.2 mg/L (Daphnia magna) 24 h EC50 1.8 mg/L (Daphnia magna) 48 h

		mg/L (Cyprinus carpio) 96 h LC50 15 - 18.9 mg/L (Pimephales promelas) 96 h	
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Persistence and degradability

Kit Component	Biotinylated Protein Ladder
Persistence and degradability	Product is biodegradable

Bioaccumulation

Kit Component	Biotinylated Protein Ladder
Bioaccumulation	Not likely to bioaccumulate

Chemical Name	Octanol-Water Partition Coefficient
glycerol	-1.76
dimethyl sulfoxide	-2.03
sodium dodecyl sulphate	1.6

Mobility

Kit Component	Biotinylated Protein Ladder
Mobility	Will likely be mobile in the environment due to its water solubility

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.

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

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
glycerol	Listed	Not Listed	Listed	Not Listed
dimethyl sulfoxide	Listed	Not Listed	Listed	Not Listed
sodium dodecyl sulphate	Listed	Not Listed	Listed	Not Listed
(R*,R*)-1,4-dimercaptobutane-2,3-diol	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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

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

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Refer to kit component SDS for applicable State Right-To-Know (RTK) information.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
glycerol	Listed	Listed	Listed
dimethyl sulfoxide	Listed	Not Listed	Not Listed

SECTION 16. Other information

Issuing Date: 2018-06-06

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