



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

Issuing Date: 2018-04-10

Version: 1

## SECTION 1. Identification

### Product identifier

**Product No** 5492  
**Product name** BrdU Cell Proliferation Chemiluminescent Assay Kit  
**Kit Component**  
**BrdU**  
**Fixing/Denaturing Solution**  
**BrdU Detection Ab**  
**Antimouse HRP-Linked Ab**  
**Green Detection Antibody Diluent**  
**HRP-Linked Ab Diluent**  
**Luminol/Enhancer Solution**  
**Stable Peroxide Buffer**  
**20X Wash Buffer**

### 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](http://www.cellsignal.com)  
**Email address** [support@cellsignal.com](mailto: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 1
<b>Serious eye damage/eye irritation</b>	Category 1
<b>Skin sensitization</b>	Category 1
<b>Flammable liquids</b>	Category 2

### GHS Label elements, including precautionary statements

**Signal Word**

Danger

**Hazard statement(s)**

Highly flammable liquid and vapor.

Causes severe skin burns and eye damage. May cause an allergic skin reaction.

**Precautionary Statement(s)**

Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Ground/Bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. If skin irritation or rash 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. Immediately call a POISON CENTER or doctor/physician.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction.

Store in a well-ventilated place. Keep cool.

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

**Supplementary Hazard Information**

No information available.

**Hazards not otherwise classified (HNOC)**

Not applicable.

**Unknown Acute Toxicity** 140% of the mixture consists of ingredient(s) of unknown acute toxicity

### SECTION 3. Composition/information on ingredients

**Kit Component Name** Fixing/Denaturing Solution

Chemical Name	CAS No	Weight %
ethanol	64-17-5	60-70
sodium hydroxide	1310-73-2	0.1-0.5

**Kit Component Name** BrdU Detection Ab

Chemical Name	CAS No	Weight %
trometamol	77-86-1	0.5
sodium azide	26628-22-8	<0.1

**Kit Component Name** Antimouse HRP-Linked Ab

Chemical Name	CAS No	Weight %
trometamol	77-86-1	0.5
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	0.005-0.025

**Kit Component Name** Green Detection Antibody Diluent

Chemical Name	CAS No	Weight %
trometamol	77-86-1	0.5
sodium azide	26628-22-8	<0.1

**Kit Component Name** HRP-Linked Ab Diluent

Chemical Name	CAS No	Weight %
trometamol	77-86-1	0.5
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	0.005-0.025

**Kit Component Name** Luminol/Enhancer Solution

Chemical Name	CAS No	Weight %
trometamol	77-86-1	1-3
Ethylene glycol	107-21-1	1-3

**Kit Component Name** BrdU, Stable Peroxide Buffer, 20X Wash Buffer

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

## SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Remove and wash contaminated clothing before re-use.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

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

Corrosive. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Contains an animal derived biological. May produce an allergic reaction in susceptible individuals. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

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

Treat symptomatically.

**Advice for emergency responders**

<b>General advice</b>	For further assistance, contact your local Poison Control Center.
<b>Protection of first-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## SECTION 5. Fire-fighting measures

**Extinguishing media**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

**Hazardous Combustion Products**

Carbon oxides (COx). Nitrogen oxides (NOx).

**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 the skin and the eyes. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition. Ensure adequate ventilation. All equipment used when handling the product must be grounded. Use personal protective equipment.

**Other information** No information available.

**Environmental precautions**

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**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**

Ensure adequate ventilation. Wear personal protective equipment.

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

**Technical measures/Storage conditions** Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

**Packaging material** No information available.

**Incompatible products** Strong oxidizing agents, Strong acids, Strong bases, Metals.

**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
ethanol	STEL 1000 ppm	TWA : 1000 ppm	IDLH : 3300 ppm

		TWA : 1900 mg/m <sup>3</sup>	TWA : 1000 ppm TWA : 1900 mg/m <sup>3</sup>
Ethylene glycol	Ceiling: 100 mg/m <sup>3</sup>	-	-
sodium hydroxide	Ceiling: 2 mg/m <sup>3</sup>	TWA : 2 mg/m <sup>3</sup>	IDLH : 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>
sodium azide	Ceiling: 0.29 mg/m <sup>3</sup> Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m <sup>3</sup>

**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. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## SECTION 9. Physical and chemical properties

**Information on basic physical and chemical properties**

Kit Component  
Physical state  
Appearance  
Color  
pH VALUE

**BrdU**  
Liquid  
Transparent  
Clear  
7.0

Kit Component  
Physical state  
Appearance  
Color  
pH VALUE  
Flash point (°C) VALUE  
Flash point (°F) VALUE  
Method

**Fixing/Denaturing Solution**  
Liquid  
Transparent  
Clear  
13  
15  
59  
(based on components)

Kit Component  
Physical state  
Appearance  
Color  
pH VALUE  
Remarks

**BrdU Detection Ab**  
Liquid  
Clear  
Green  
7.4  
@ 20 °C

Kit Component  
Physical state  
Appearance  
Color  
pH VALUE  
Remarks

**Antimouse HRP-Linked Ab**  
Liquid  
Clear  
Red  
7.4  
@ 20 °C

Kit Component	<b>Green Detection Antibody Diluent</b>
Physical state	Liquid
Appearance	Clear
Color	Green
pH VALUE	7.4
Remarks	@ 20 °C

Kit Component	<b>HRP-Linked Ab Diluent</b>
Physical state	Liquid
Appearance	Clear
Color	Red
pH VALUE	7.4
Remarks	@ 20 °C

Kit Component	<b>Luminol/Enhancer Solution</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless or light pink
pH VALUE	9.5
Remarks	@ 20 °C
Solubility	Soluble in water

Kit Component	<b>Stable Peroxide Buffer</b>
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	4.9-5.1
Remarks	@ 20 °C

Kit Component	<b>20X Wash Buffer</b>
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

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

### Conditions to Avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide.

### Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases. Metals.

### Hazardous Decomposition Products

Carbon oxides (COx). Nitrogen oxides (NOx).

## 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 Inhalation	Fixing/Denaturing Solution Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate
Kit Component Inhalation	Antimouse HRP-Linked Ab Contains an animal derived biological. May produce an allergic reaction in susceptible individuals.
Kit Component Inhalation	HRP-Linked Ab Diluent Contains an animal derived biological. May produce an allergic reaction in susceptible individuals.
Kit Component Inhalation	Luminol/Enhancer Solution May cause irritation of respiratory tract
Kit Component Inhalation	Stable Peroxide Buffer May cause irritation of respiratory tract

#### **Eye contact**

Kit Component Eye contact	Fixing/Denaturing Solution Corrosive to the eyes and may cause severe damage including blindness
Kit Component Eye contact	Luminol/Enhancer Solution May cause slight irritation
Kit Component Eye contact	Stable Peroxide Buffer May cause slight irritation

#### **Skin contact**

Kit Component Skin contact	Fixing/Denaturing Solution Corrosive to skin.
Kit Component Skin contact	Antimouse HRP-Linked Ab Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Kit Component Skin contact	HRP-Linked Ab Diluent Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Kit Component Skin contact	Luminol/Enhancer Solution Avoid contact with skin
Kit Component Skin contact	Stable Peroxide Buffer Substance may cause slight skin irritation

**Ingestion**

Kit Component Ingestion	Fixing/Denaturing Solution Can burn mouth, throat, and stomach
Kit Component Ingestion	Antimouse HRP-Linked Ab Contains an animal derived biological. May produce an allergic reaction in susceptible individuals.
Kit Component Ingestion	HRP-Linked Ab Diluent Contains an animal derived biological. May produce an allergic reaction in susceptible individuals.
Kit Component Ingestion	Luminol/Enhancer Solution May be harmful if swallowed
Kit Component Ingestion	Stable Peroxide Buffer Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

**Information on toxicological effects****Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
ethanol	7060 ( Rat )	-	-
trometamol	5900 mg/kg ( Rat )	-	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg ( Rabbit ) = 50 mg/kg ( Rat )	-
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	= 53 mg/kg (Rat) = 481 mg/kg (Rat)	-	= 1.23 mg/L ( Rat ) 4 h

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

Corrosive Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting Contains an animal derived biological. May produce an allergic reaction in susceptible individuals Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing

**Skin and Eye Corrosion/Irritation**

Kit Component Skin corrosion/irritation Serious eye damage/eye irritation	Fixing/Denaturing Solution Causes burns Risk of serious damage to eyes
---	--

**Sensitization**

Kit Component Skin Sensitization	Antimouse HRP-Linked Ab Product is or contains a sensitizer. May cause an allergic skin reaction.
-------------------------------------	--



Kit Component Skin Sensitization	HRP-Linked Ab Diluent Product is or contains a sensitizer. May cause an allergic skin reaction.
<b>Mutagenic effects</b>	No information available
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>Systemic Target Organ Toxicity (STOT)</b>	No information available
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

#### Product Information

Kit Component Ecotoxicity	Fixing/Denaturing Solution Toxic to aquatic life
------------------------------	---

#### Component Information

No information available

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
ethanol	-	LC50 100 mg/L (Pimephales promelas) 96 h LC50 13400 - 15100 mg/L (Pimephales promelas) 96 h LC50 12.0 - 16.0 mL/L (Oncorhynchus mykiss) 96 h	EC50 2 mg/L (Daphnia magna) 48 h EC50 10800 mg/L (Daphnia magna) 24 h LC50 9268 - 14221 mg/L (Daphnia magna) 48 h
trometamol	-	-	NOEC >100 mg/L (Selenastrum capricornutum) 96 h
Ethylene glycol	EC50 6500 - 13000 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 40761 mg/L (Oncorhynchus mykiss) 96 h LC50 27540 mg/L (Lepomis macrochirus) 96 h LC50 41000 mg/L (Oncorhynchus mykiss) 96 h LC50 14 - 18 mL/L (Oncorhynchus mykiss) 96 h LC50 40000 - 60000 mg/L (Pimephales promelas) 96 h LC50 16000 mg/L (Poecilia reticulata) 96 h	EC50 46300 mg/L (Daphnia magna) 48 h
sodium hydroxide	-	LC50 45.4 mg/L (Oncorhynchus mykiss) 96 h	-
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	EC50 0.11 - 0.16 mg/L (Pseudokirchneriella subcapitata) 72 h EC50 0.31 mg/L (Anabaena flos-aquae) 120 h EC50 0.03 - 0.13 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 1.6 mg/L (Oncorhynchus mykiss) 96 h	EC50 4.71 mg/L (Daphnia magna) 48 h EC50 0.71 - 0.99 mg/L (Daphnia magna) 48 h EC50 0.12 - 0.3 mg/L (Daphnia magna) 48 h

**Persistence and degradability** No information available

**Bioaccumulation** No information available

Chemical Name	Octanol-Water Partition Coefficient
ethanol	-0.32
Ethylene glycol	-1.93

**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.

**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
ethanol	Listed	Not Listed	Listed	Not Listed
trometamol	Listed	Not Listed	Listed	Not Listed
Ethylene glycol	Listed	Not Listed	Listed	Not Listed
sodium hydroxide	Listed	Not Listed	Listed	Not Listed
sodium azide	Listed	Not Listed	Listed	Not Listed
reaction mass of: 5-chloro-2-methyl-4-isothiazolin- 3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	Not Listed	Section 5: 1 %	Listed	Not Listed

**SARA 313**

Refer to kit component SDS for full SARA Section 313 reporting requirements.

Chemical Name	CAS No	SARA 313 - Threshold Values %
Ethylene glycol	107-21-1	1.0
sodium azide	26628-22-8	1.0
magnesium nitrate	10377-60-3	1.0
copper dinitrate	3251-23-8	1.0

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**Clean Water Act**

Refer to kit component SDS for full Clean Water Act (CWA) reporting requirements.

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

**CERCLA**

Refer to kit component SDS for full Comprehensive Environmental Response Compensation and Liability Act (CERCLA) reporting requirements.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Ethylene glycol	5000 lb	Not Listed
sodium hydroxide	1000 lb	-
sodium azide	1000 lb	1000 lb

**California Proposition 65**

Refer to kit component SDS for full California Proposition 65 information.

Chemical Name	California Prop. 65
ethanol	Carcinogen Developmental

**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
ethanol	Listed	Listed	Listed
Ethylene glycol	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
sodium hydroxide	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed
magnesium nitrate	Listed	Listed	Listed
copper dinitrate	Listed	Listed	Listed

<b>SECTION 16. Other information</b>
--------------------------------------

**Issuing Date:** 2018-04-10

**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