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

Issuing Date: 2017-10-25 **Revision Date:** 2024-11-07 **Version:** 3

SECTION 1. Identification

Product identifier

Product No 6813

Product name BrdU Cell Proliferation Assay Kit

Kit Component
32375: Fixing/denaturing Solution (1X)
94079: BrdU Mouse Detection mAb
34709: Anti-mouse IgG, HRP-Linked Antibody
13339: Detection Antibody Diluent
48969: 20X Wash Buffer
7002: STOP Solution
75953: BrdU
7004: TMB Substrate
13515: HRP Diluent

Hazardous Components
7002: STOP Solution
13515: HRP Diluent
32375: Fixing/denaturing Solution (1X)
34709: Anti-mouse IgG, HRP-Linked Antibody
UN number UN3316

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 considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Skin sensitization	Category 1
Flammable liquids	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 dry sand, dry chemical or alcohol-resistant foam to extinguish
Store in a well-ventilated place. Keep cool.
Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard Information

Hazards not otherwise classified (HNOC)
No information available.

SECTION 3. Composition/information on ingredients

Kit Component **32375: Fixing/denaturing Solution (1X)**

DANGER: Highly flammable liquid and vapor. Causes severe skin burns and eye damage.

Chemical name	CAS No.	Weight-%
ethanol	64-17-5	60-70

Kit Component **7002: STOP Solution**

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

Chemical name	CAS No.	Weight-%
maleic acid	110-16-7	3-7

Kit Component **34709: Anti-mouse IgG, HRP-Linked Antibody**

WARNING: May cause an allergic skin reaction.

Chemical name	CAS No.	Weight-%
reaction mass of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one	55965-84-9	0.005-0.025

Kit Component **13515: HRP Diluent**

WARNING: May cause an allergic skin reaction.

Chemical name	CAS No.	Weight-%
reaction mass of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one	55965-84-9	0.005-0.025

Kit Component **13339: Detection Antibody Diluent**

Chemical name	CAS No.	Weight-%
sodium azide	26628-22-8	<0.1

Kit Component **94079: BrdU Mouse Detection mAb**

Chemical name	CAS No.	Weight-%
sodium azide	26628-22-8	<0.1

Kit Component **75953: BrdU**
7004: TMB Substrate
48969: 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

Eye contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin contact Immediate medical attention is required. 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. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician.

Ingestion Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

Most important symptoms and effects, both acute and delayed

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. 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. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Advice for emergency responders

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
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. CO2, dry chemical, dry sand, alcohol-resistant foam.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire

Specific hazards arising from the chemical

Vapors may travel to source of ignition and flash back. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Explosion Data

Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	Yes

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. Remove all sources of ignition. Remove combustible material and, if possible, all exposed reservoirs. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use personal protective equipment. Avoid contact with skin, eyes and clothing.
Other information	No information available.

Environmental precautions

Local authorities should be advised if significant spillages cannot be contained. Prevent product from entering drains. 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

Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep away from open flames, hot surfaces and sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place.
Packaging material	No information available
Incompatible products	Strong acids, Strong oxidizing agents, Strong bases, Metals

SECTION 8. Exposure controls/personal protection

Control Parameters

Occupational exposure limit values			
Chemical name	**ACGIH TLV**	**OSHA PEL**	**NIOSH REL**
ethanol	STEL: 1000 ppm	TWA : 1000 ppm TWA : 1900 mg/m^3	IDLH : 3300 ppm TWA : 1000 ppm TWA : 1900 mg/m^3
sodium azide	Ceiling: 0.29 mg/m^3 Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m^3

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tightly fitting safety goggles. Face-shield.
Skin and body protection	Wear protective gloves/clothing.
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Keep away from food, drink and animal feeding stuffs. Provide regular cleaning of equipment, work area and clothing. Contaminated work clothing should not be allowed out of the workplace.

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	**32375: Fixing/denaturing Solution (1X)**
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH - VALUE 1	13
Flash point	13 °C / 55 °F (Ethanol)

Kit Component	**94079: BrdU Mouse Detection mAb**
Physical state	Liquid
Appearance	Clear
Color	Green
pH - VALUE 1	7.4 (20 °C)

Kit Component	**34709: Anti-mouse IgG, HRP-Linked Antibody**
Physical state	Liquid
Appearance	Clear
Color	Red
pH - VALUE 1	7.4 (20 °C)

Kit Component	**13339: Detection Antibody Diluent**
Physical state	Liquid
Appearance	Clear
Color	Green
pH - VALUE 1	7.4 (20 °C)

Kit Component	**13515: HRP Diluent**
Physical state	Liquid
Appearance	Clear
Color	Red
pH - VALUE 1	7.4 (20 °C)

Kit Component	**48969: 20X Wash Buffer**
Physical state	Liquid
Appearance	Clear
Color	Colorless

Kit Component	**7002: STOP Solution**
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH - VALUE 1	2.0 (20 °C)

Kit Component	**75953: BrdU**
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH - VALUE 1	7.0

Kit Component	**7004: TMB Substrate**
Physical state	Liquid
Appearance	Clear
Color	Light yellow
pH - VALUE 1	3.3 - 3.8 (20 °C)

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

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Incompatible materials

Strong acids, Strong oxidizing agents, Strong bases, Metals

Hazardous decomposition products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors

SECTION 11. Toxicological information

Information on likely routes of exposure

Product Information
Refer to kit component SDS for full toxicological 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	**32375: Fixing/denaturing Solution (1X)**
Inhalation	May cause irritation of respiratory tract
Kit Component	**7002: STOP Solution**
Inhalation	May cause irritation of respiratory tract

Eye contact

Kit Component	**32375: Fixing/denaturing Solution (1X)**
Eye contact	May cause irreversible damage to eyes
Kit Component	**7002: STOP Solution**
Eye contact	May cause irreversible damage to eyes

Skin contact

Kit Component	**32375: Fixing/denaturing Solution (1X)**
Skin contact	Corrosive to skin
Kit Component	**13515: HRP Diluent**
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Kit Component	**34709: Anti-mouse IgG, HRP-Linked Antibody**
Skin contact	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Kit Component	**7002: STOP Solution**
Skin contact	Corrosive to skin

Ingestion

Kit Component	**32375: Fixing/denaturing Solution (1X)**
Ingestion	Ingestion may cause irritation to mucous membranes.

Kit Component	**7002: STOP Solution**
Ingestion	Ingestion causes burns of the upper digestive and respiratory tract.

Symptoms related to the physical, chemical and toxicological characteristics

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
ethanol	7060 (Rat)	-	= 116.9 mg/L (Rat) 4 h = 133.8 mg/L (Rat) 4 h
maleic acid	708 mg/kg (Rat)	1,560 mg/kg (Rabbit)	> 0.72 mg/L (Rat) 1h
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 and 2-methyl-2H -isothiazol-3-one	= 481 mg/kg (Rat) = 120 mg/kg (Rat) = 53 mg/kg (Rat)	= 200 mg/kg (Rabbit) = 87.12 mg/kg (Rabbit)	= 1.23 mg/L (Rat) 4 h = 0.11 mg/L (Rat) 4 h

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

Symptoms

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. 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. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Skin and Eye Corrosion/Irritation

Kit Component	**32375: Fixing/denaturing Solution (1X)**
Serious eye damage/eye irritation	Risk of serious damage to eyes
Skin corrosion/irritation	Causes burns

Kit Component	**7002: STOP Solution**
Serious eye damage/eye irritation	Risk of serious damage to eyes
Skin corrosion/irritation	Causes burns

Sensitization

Kit Component	**34709: Anti-mouse IgG, HRP-Linked Antibody**
Skin Sensitization	May cause an allergic skin reaction

Kit Component	**13515: HRP Diluent**
Skin Sensitization	May cause an allergic skin reaction

Kit Component	**7002: STOP Solution**
Skin Sensitization	May cause an allergic skin reaction

Mutagenic effects No information available

Carcinogenicity

Kit Component **32375: Fixing/denaturing Solution (1X)**
Carcinogenicity Ethanol has been shown to be carcinogenic in long-term studies only when consumed as alcoholic beverage

Chemical name	IARC	NTP	OSHA
ethanol 64-17-5	Group 1	Known	X

Legend:
IARC (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans
NTP: (National Toxicity Program) Known - Known Carcinogen
OSHA: (Occupational Safety & Health Administration) X - Present

Reproductive toxicity No information available.

Systemic Target Organ Toxicity (STOT) No information available

Aspiration Hazard No information available.

SECTION 12. Ecological information

Ecotoxicity

Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
ethanol	-	LC50 12.0 - 16.0 mL/L (Oncorhynchus mykiss) 96 h LC50 100 mg/L (Pimephales promelas) 96 h LC50 13400 - 15100 mg/L (Pimephales promelas) 96 h	LC50 9268 - 14221 mg/L (Daphnia magna) 48 h EC50 2 mg/L (Daphnia magna) 48 h
maleic acid	-	LC50 5 mg/L (Pimephales promelas) 96 h	EC50 250 - 400 mg/L (Daphnia magna) 48 h
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h
reaction mass of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one	EC50 0.11 - 0.16 mg/L (Pseudokirchneriella subcapitata) 72 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 0.12 - 0.3 mg/L (Daphnia magna) 48 h EC50 0.71 - 0.99 mg/L (Daphnia magna) 48 h

Persistence and degradability

Kit Component **7002: STOP Solution**
Persistence and degradability Product is biodegradable

Bioaccumulation

Kit Component **7002: STOP Solution**
Bioaccumulation Not likely to bioaccumulate

Chemical name	Partition coefficient
ethanol	-0.35
maleic acid	-0.34
reaction mass of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H -isothiazol-3-one	>=-0.32 - <=0.7

Mobility

Kit Component	**7002: STOP Solution**
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. Dispose of wastes in an approved waste disposal facility.

SECTION 14. Transport information

DOT

UN number	UN3316
UN proper shipping name	Chemical Kit
Transport hazard class(es)	9
Packing group	II

IATA

UN number or ID number	UN3316
UN proper shipping name	Chemical Kit
Transport hazard class(es)	9
Packing group	II

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
maleic acid	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 and 2-methyl-2H	Not Listed	Section 5(a)(2): 1 %	Listed	Not Listed

-isothiazol-3-one				

SARA 313

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

Chemical name	CAS No.	SARA 313 - Threshold Values %
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

Acute health hazard	Yes
Chronic Health Hazard	No
Fire hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	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)
maleic acid	5000 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
maleic acid	5000 lb	Not Listed
sodium azide	1000 lb	1000 lb

California Proposition 65

Ethyl alcohol is only a considered a Proposition 65 developmental hazard when it is ingested as an alcoholic beverage.

Chemical name	California Proposition 65
ethanol	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Refer to kit component SDS for applicable State Right-To-Know (RTK) information. This product contains the following U.S. State Right to Know chemicals:

Chemical name	New Jersey	Massachusetts	Pennsylvania
water	Not Listed	Not Listed	Listed
ethanol	Listed	Listed	Listed
maleic acid	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed
Magnesium nitrate	Listed	Listed	Listed
copper dinitrate	Listed	Listed	Listed

SECTION 16. Other information

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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