

MSDS Cover Page

Please refer to the following material safety data sheets for hazard and regulatory information specific to individual product components. This information can also be found on the Cell Signaling Technology, Inc. website cellsignal.com

Product #	Product Name
6813	BrdU Cell Proliferation Assay Kit

Component #	Description
6813 Kit Component	Fixing/Denaturing Solution
7002	TMB Substrate

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Fixing/Denaturing Solution

Pure substance/preparation Substance Preparation

Identified uses For research use only, Not for use in humans.

Manufacturer
 Cell Signaling Technology, Inc.
 3 Trask Lane
 Danvers, MA 01923
 TEL: 978-867-2300

2. HAZARDS IDENTIFICATION

Appearance Clear	Emergency Overview Flammable liquid and vapor Physical State liquid	Odor No information available
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OSHA Regulatory Status Flammable Liquid, Target Organ Effect, Irritant.

Potential Health Effects

Acute Toxicity

Eyes

May cause irritation.

Skin

May be harmful in contact with skin. Causes skin irritation.

Inhalation

May be harmful if inhaled. Causes respiratory tract irritation .

Ingestion

May be harmful if swallowed.

Chronic Effects

Chronic toxicity

No known effect based on information supplied.

Aggravated Medical Conditions

None known.

Environmental hazard

See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Sodium hydroxide	1310-73-2	5 - 10
Ethanol	64-17-5	60 - 70

Chemical Name	CAS-No	Weight %	EC-No
Ethanol	64-17-5	60 - 70	200-578-6
Sodium hydroxide	1310-73-2	5 - 10	215-185-5

4. FIRST AID MEASURES

Eye contact Rinse immediately with plenty of water and seek medical advice.

Skin contact Rinse immediately with plenty of water and seek medical advice.

Inhalation Move to fresh air.

Ingestion Never give anything by mouth to an unconscious person. Clean mouth with water.

5. FIRE-FIGHTING MEASURES

Flammable Properties Highly flammable liquid and vapor .
Suitable Extinguishing Media Dry chemical, CO, alcohol-resistant foam or water spray.
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.

NFPA **Health Hazard** 2 **Flammability** 3 **Stability** 0 **Physical and chemical hazards** -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid breathing vapors or mists. Remove all sources of ignition.

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Prevent product from entering drains.

7. HANDLING AND STORAGE

Advice on safe handling Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice.

Technical measures/Storage conditions Keep container tightly closed. Recommended storage temperature 4 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines Ingredients with workplace control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³
Ethanol 64-17-5	STEL 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³

Engineering Measures Showers, eyewash stations, and ventilation systems.

Hygiene measures When using, do not eat, drink or smoke Wear suitable gloves and eye/face protection Wash hands before breaks and at the end of workday Wash hands with water as a precaution Regular cleaning of equipment, work area and clothing is recommended Avoid breathing vapors, mist or gas

Personal Protective Equipment

Respiratory protection	None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Eye/Face Protection	Safety glasses with side-shields
Skin and body protection	Protective gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	liquid
Appearance	Clear
Color	colorless
Odor	No information available
pH	13.1
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	Not determined.
Flammable Properties	Highly flammable liquid and vapor .
Autoignition temperature	No information available
Flammability Limits in Air	No information available
Explosive properties	No information available
VOC Content	No information available
Initial Boiling Point	No information available
Evaporation Rate	No information available
Decomposition Temperature °C	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Heat (temperatures above flash point), sparks, ignition points, flames, static electricity
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

Carcinogenicity There are no known carcinogenic chemicals in this product.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol	A3	1	Known	X

Target Organ Effects Central nervous system, Liver, Heart.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ethanol			EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

Chemical Name	log Pow
Ethanol	-0.32

13. DISPOSAL CONSIDERATIONS

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

Chemical Name	California Hazardous Waste Status
Sodium hydroxide	Toxic Corrosive
Ethanol	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT Not regulated
Proper shipping name Ethanol Solutions
Hazard class 3
UN/ID No 1170
Packing Group II

MEX Not regulated
Proper shipping name Ethanol Solutions
Hazard class 3
UN/ID No 1170
Packing Group II

IATA Not regulated
UN/ID No 1170
Proper shipping name Ethanol solutions
Hazard class 3
Packing Group II

15. REGULATORY INFORMATION

OSHA Regulatory Status

Flammable Liquid, Target Organ Effect, Irritant

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

U.S. Federal Regulations

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).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2 (5 - 10)	1000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

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.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Sodium
1000 lb			

TSCA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Carcinogen Developmental

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island

Ethanol	X	X	X		X
Sodium hydroxide	X	X	X		X

International Regulations

Mexico - Grade No information available.

Chemical Name	Carcinogen Status	Exposure Limits
Sodium hydroxide		Mexico: Ceiling 2 mg/m ³
Ethanol		Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not Determined

16. OTHER INFORMATION

Revision Date: 2010-11-29

Revision Note No information available.

Disclaimer

The information provided on this MSDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

End of Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code(s) 7004
Product Name TMB Substrate

Pure substance/preparation Substance Preparation

Identified uses **Not for use in humans, For research use only.**

Manufacturer
 Cell Signaling Technology, Inc.
 3 Trask Lane
 Danvers, MA 01923
 TEL: 978-867-2300

Emergency telephone 978-578-6737

2. HAZARDS IDENTIFICATION

		Emergency Overview
The product contains no substances which at their given concentration, are considered to be hazardous to health.		
Appearance Clear to light yellow.	Physical State liquid	Odor No information available

Potential Health Effects

Acute Toxicity

Eyes	May cause slight irritation.
Skin	No known effect based on information supplied.
Inhalation	No known effect based on information supplied.
Ingestion	No known effect based on information supplied.

Chronic Effects

Chronic toxicity	No known effect based on information supplied.
Aggravated Medical Conditions	None known.
Environmental hazard	See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Hydrogen Peroxide	7722-84-1	0.1 - 1

Non-Hazardous

Chemical Name	CAS-No	Weight %
[1,1'-Biphenyl]-4,4'-diamine, 3,3',5,5'-tetramethyl-	54827-17-7	< 0.1
Trade Secret	UNKNOWN	>99

4. FIRST AID MEASURES

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air.

Ingestion Clean mouth with water and afterwards drink plenty of water.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties Not flammable.
Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media No information available.
Specific hazards arising from the chemical Keep product and empty container away from heat and sources of ignition
Protective Equipment and Precautions for Firefighters Wear self-contained breathing apparatus and protective suit.

NFPA **Health Hazard 0** **Flammability 0** **Stability 0** **Physical and chemical hazards -**

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Ensure adequate ventilation.

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

7. HANDLING AND STORAGE

Advice on safe handling Ensure adequate ventilation.

Technical measures/Storage conditions Keep container tightly closed. Recommended storage temperature 4 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrogen Peroxide 7722-84-1	TWA: 1 ppm	TWA: 1 ppm TWA: 1.4 mg/m ³ (vacated) TWA: 1 ppm (vacated) TWA: 1.4 mg/m ³	IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m ³

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Personal Protective Equipment

Respiratory protection	None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
Eye/Face Protection	Safety glasses with side-shields
Skin and body protection	Protective gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	liquid
Appearance	Clear to light yellow.
Color	No information available
Odor	No information available
pH	< 7.4
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	- 38 / - 80
Flammable Properties	Not flammable.
Autoignition temperature	No information available
Flammability Limits in Air	No information available
Explosive properties	No information available
VOC Content	No information available
Initial Boiling Point	No information available
Water Solubility	Soluble in water
Evaporation Rate	No information available
Decomposition Temperature °C	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Incompatible products	No materials to be especially mentioned
Conditions to Avoid	Protect from light
Hazardous Decomposition Products	None under normal use.
Hazardous Reactions	None under normal processing

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

Carcinogenicity There are no known carcinogenic chemicals in this product.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydrogen Peroxide	A3			

Irritation No information available.
Sensitization No information available
mutagenic effects No information available.
Reproductive Toxicity Category 2
Developmental Toxicity No information available.
Teratogenicity No information available
Target Organ Effects No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Persistence and degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Chemical Name	California Hazardous Waste Status
Hydrogen Peroxide	Toxic Corrosive Ignitable Reactive

14. TRANSPORT INFORMATION

DOT Not regulated

MEX Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product

International Inventories

TSCA -
DSL/NDSL -
EINECS/ELINCS -

ENCS -
IECSC -
KECL -
PICCS -
AICS -
NZIoC -

U.S. Federal Regulations

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).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

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Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Hydro
	1000 lb		

TSCA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

International Regulations

Mexico - Grade No information available.

Chemical Name	Carcinogen Status	Exposure Limits
Hydrogen Peroxide	A3	Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m ³ Mexico: STEL 2 ppm Mexico: STEL 3 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not Determined

16. OTHER INFORMATION

Issuing Date: 2010-03-22
Revision Date: 2010-11-29

Revision Note No information available.

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End of Material Safety Data Sheet