

Material Safety Data Sheet (MSDS) for #9004 and #9005 SimpleChIP® Plus Enzymatic Chromatin IP Kit

New 11/11

I. IDENTIFICATION:

Product name: SimpleChIP® Plus Enzymatic Chromatin IP Kit

Product Catalog Number: #9004 and #9005

CAS number: None

Manufacturer Supplier: Cell Signaling Technology®

3 Trask Lane

Danvers, MA 01923 USA

1-978-867-2300 TEL

1-978-867-2400 FAX

1-978-578-6737 Emergency Phone

Identified Use: This product is for *in vivo* laboratory Research Use Only and is not intended for use in humans or animals. It is not intended for Diagnostic or Therapeutic use.

II. COMPOSITION/INFORMATION ON INGREDIENTS:

Substance Name: SimpleChIP® Enzymatic Chromatin IP Kit

CAS#: None

Please see the individual material safety data sheets which can be found on the CST website www.cellsignal.com/support/msds.html for hazard information specific to kit components.

- Buffer A (4X) MSDS
- ChIP Buffer (10X) MSDS
- ChIP Elution Buffer (2X) MSDS
- 0.5 M EDTA Solution MSDS
- 1 M DTT MSDS
- DNA Binding Reagent A MSDS
- Protease Inhibitor Cocktail MSDS
- RNase A solution MSDS
- Micrococcal Nuclease Solution MSDS
- Proteinase K Solution MSDS
- Histone H3 Antibody (covered by "Antibodies" MSDS)
- Normal Rabbit IgG (covered by "Antibodies" MSDS)

III. HAZARD IDENTIFICATION:

Harmful. Flammable. Irritant. May cause irritation to eyes, skin, mucous membranes. Harmful if swallowed.

HMIS Rating: Health: 2 Flammability: 0 Reactivity: 0

VII. HANDLING AND STORAGE:

Storage: Store kit in tightly closed container at 4°C.

XIV. TRANSPORT INFORMATION:

D.O.T.

Not Regulated

IATA

Not Regulated

XV. REGULATORY INFORMATION:

US Regulations/Classifications:

Harmful if swallowed. Irritating to eyes and skin.

In case of contact with eyes, wash thoroughly and seek medical attention.

SARA 313 listed: No.

XVI. OTHER INFORMATION:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code(s)	9002, 9003, 9004, 9005
Product Name	Buffer A (4X)
Pure substance/preparation	Preparation
Identified uses	For in vitro Research Use Only (RUO). Not intended for use in humans or animals. Not intended for therapeutic or diagnostic procedures.
Manufacturer	Cell Signaling Technology, Inc. 3 Trask Lane Danvers, MA 01923 TEL: 978-867-2300
Emergency telephone	In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Appearance colorless	Emergency Overview WARNING May be harmful if swallowed	Physical State liquid	Odor No information available
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OSHA Regulatory Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Potential Health Effects	
Acute Toxicity	
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	May be harmful if inhaled.
Ingestion	May be harmful if swallowed.
Chronic Effects	
Chronic toxicity	No known effect based on information supplied.
Aggravated Medical Conditions	Pre-existing eye disorders. Respiratory disorders
Environmental hazard	See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Sodium chloride	7647-14-5	0.1 - 1
Magnesium chloride	7786-30-3	0.1 - 1
Tris-HCL	1185-53-1	0.1 - 1
Potassium Chloride	7447-40-7	1 - 3
Nonidet - 40	9036-19-5	3 - 5
Sucrose	57-50-1	30 - 60
Water	7732-18-5	30 - 60

Chemical Name	CAS-No	Weight %	EC-No
Tris-HCL	1185-53-1	0.7	214-684-5
Sucrose	57-50-1	41.1	200-334-9
Potassium Chloride	7447-40-7	1.8	231-211-8
Nonidet - 40	9036-19-5	4	-
Water	7732-18-5	51.6	231-791-2
Magnesium chloride	7786-30-3	0.4	232-094-6
Sodium chloride	7647-14-5	0.35	231-598-3

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	Not flammable.
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 0	Flammability 0	Stability 0	Physical and chemical hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
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 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
Sucrose 57-50-1	TWA: 10 mg/m ³	TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 15 mg/m ³ (vacated) TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 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	colorless
Color	No information available
Odor	No information available
pH	No information available
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Molecular Weight	123 - 145 g/mol
Flash point	No information available
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.
Conditions to Avoid	None known based on information supplied
Hazardous Decomposition Products	None under normal use.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

LD50 Oral:	No information available.
LD50 Dermal:	No information available.
LC50 Inhalation:	No information available.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Irritation	No information available.
Sensitization	No information available
mutagenic effects	No information available.
Target Organ Effects	Eyes, Respiratory system.

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Nonidet - 40	Group III Chemical		

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.

14. TRANSPORT INFORMATION

DOT Not regulated
MEX Not regulated
IATA Not regulated

15. REGULATORY INFORMATION

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	-
ENCS	-
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).

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.

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Nonidet - 40	PAIR: 03/29/1996
Sucrose	Partially exempt chemical substance under 40 CFR 710.46(b)(2)
Water	Partially exempt chemical substance termed Petroleum Process Stream

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Nonidet - 40	03/29/1996

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. State Regulations.

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sucrose	X		X		X

International Regulations

Mexico - Grade No information available.

Chemical Name	Carcinogen Status	Exposure Limits
Sucrose		Mexico: TWA 10 mg/m ³ Mexico: STEL 20 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: 2009-10-29
Revision Date: 2011-11-28

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

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	If swallowed, do not induce vomiting - seek medical advice.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.
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 0	Stability 0	Physical and chemical hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
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	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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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	No information available
Odor	No information available
pH	No information available
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	No information available
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
Evaporation Rate	No information available
Decomposition Temperature °C	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	None known based on information supplied
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

LD50 Oral:	71199 mg/kg (rat) estimated
LD50 Dermal:	71199 mg/kg (rat) estimated
LC50 Inhalation:	71199 mg/l (mist) (dust) mg/m ³ estimated 71199 ml/m ³ (vapor) estimated

Carcinogenicity There are no known carcinogenic chemicals in this product.

Target Organ Effects None known.

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information

Triton X-100	Group III Chemical		
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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.

Chemical Name	log Pow
Sodium lauryl sulfate	1.6

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

DOT Not regulated

MEX Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

International Inventories

TSCA	-
DSL/NDSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	Complies
KECL	-
PICCS	-
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).

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.

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Triton X-100	PAIR: 03/29/1996

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Triton X-100	03/29/1996

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.

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: 2011-11-26

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) 9002, 9003, 9004, 9005
Product Name ChIP Elution Buffer (2X)
Pure substance/preparation Preparation
Identified uses **For in vitro Research Use Only (RUO).**
Not intended for use in humans or animals.
Not intended for therapeutic or diagnostic procedures.

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

Emergency telephone In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Appearance colorless	Emergency Overview WARNING Physical State liquid	Odor No information available
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OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Potential Health Effects
 Principle Routes of Exposure Inhalation Skin contact Eye contact Ingestion
Acute Toxicity

Eyes May cause slight irritation.
Skin May cause irritation.
Inhalation May cause 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

Chemical Name	CAS-No	Weight %
Sodium lauryl sulfate	151-21-3	1- 3

Chemical Name	CAS-No	Weight %	EC-No
Tris-HCL	1185-53-1	0.12	214-684-5
Water	7732-18-5	97	231-791-2
EDTA	6381-92-6	0.74	-
Sodium lauryl sulfate	151-21-3	2	205-788-1

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	If swallowed, do not induce vomiting - seek medical advice.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.
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 1	Flammability 0	Stability 0	Physical and chemical hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
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	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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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	colorless
Color	No information available
Odor	No information available
pH	No information available
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	No information available
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.
Conditions to Avoid	None known based on information supplied
Hazardous Decomposition Products	None under normal use.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

Acute Toxicity	None known based on the information supplied.
LD50 Oral:	No information available. 140
LD50 Dermal:	No information available. 140
LC50 Inhalation:	No information available. 140 140

Carcinogenicity There are no known carcinogenic chemicals in this product.

Target Organ Effects None known.

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.

Chemical Name	log Pow
Sodium lauryl sulfate	1.6

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

DOT Not regulated

MEX Not regulated

IATA Not regulated

15. REGULATORY INFORMATION

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

International Inventories

TSCA -
DSL/NDL Complies
EINECS/ELINCS -
ENCS -
IECSC Complies
KECL -
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).

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.

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.

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: 2009-10-29

Revision Date: 2011-11-28

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 Name 1M DTT

Pure substance/preparation Preparation

Identified uses **For in vitro Research Use Only (RUO).**
Not intended for use in humans or animals.
Not intended for therapeutic or diagnostic procedures.

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

Emergency telephone In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Appearance No information available	Emergency Overview WARNING	Physical State liquid	Odor unpleasant
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Potential Health Effects

Acute Toxicity

Eyes May cause irritation.

Skin May cause irritation.

Inhalation May be harmful if inhaled.

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

Chemical Name	CAS-No	Weight %
DL-Dithiothreitol	3483-12-3	10 - 30

Chemical Name	CAS-No	Weight %	EC-No
DL-Dithiothreitol	3483-12-3	10 - 30	-
Water	7732-18-5	80 - 90	231-791-2

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 Not flammable.
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** 0 **Flammability** 0 **Stability** 0 **Physical and chemical hazards** -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid contact with skin, eyes and clothing.

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

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	No information available
Color	No information available
Odor	unpleasant
pH	pH 3 - 5
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	No information available
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	No information available
Hazardous Decomposition Products	No information available.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

Acute Toxicity	No information available.
LD50 Oral:	No information available.
LD50 Dermal:	No information available.
LC50 Inhalation:	No information available.

Carcinogenicity	There are no known carcinogenic chemicals in this product.
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Target Organ Effects	None known.
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12. ECOLOGICAL INFORMATION

Ecotoxicity

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

Persistence and degradability	No information available.
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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.

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 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

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)

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.

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.

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: 2011-11-26

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 Name DNA Binding Reagent A

Pure substance/preparation Preparation

Identified uses **For in vitro Research Use Only (RUO).**
Not intended for use in humans or animals.
Not intended for therapeutic or diagnostic procedures.

Manufacturer
 Cell Signaling Technology, Inc. 3 Trask
 Lane, Denvers, MA 10923 USA +1-978-
 867-2300

Emergency telephone In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

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

Potential Health Effects

Principle Routes of Exposure Inhalation Skin contact Eye contact Ingestion

Acute Toxicity

Eyes May cause irritation.

Skin May be harmful in contact with skin.

Inhalation May be harmful if inhaled.

Ingestion May be harmful if swallowed.

Chronic Effects

Chronic toxicity No information available.

Aggravated Medical Conditions None known.

Environmental hazard See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	EC-No
Guanidinium thiocyanate	593-84-0	30 - 60	-
Non-hazardous proprietary solution	N/A	30 - 60	-

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 If swallowed, do not induce vomiting - seek medical advice.

5. FIRE-FIGHTING MEASURES

Flammable Properties Not flammable.
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 0	Flammability 0	Stability 0	Physical and chemical hazards -
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid contact with skin, eyes and clothing.

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

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	No information available
Odor	Acetic
pH	No information available 4.5 - 5.5
Solubility	No information available
Melting point/range	No information available
Boiling Point/Range	No information available
Flash point	No information available
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
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10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	No information available
Hazardous Decomposition Products	No information available.

11. TOXICOLOGICAL INFORMATION

Caution - substance not yet tested completely

Acute Toxicity	No information available.
LD50 Oral:	No information available.
LD50 Dermal:	No information available.
LC50 Inhalation:	No information available.

Chronic toxicity	No information available.
Carcinogenicity	There are no known carcinogenic chemicals in this product.

Irritation	No information available.
Sensitization	No information available
mutagenic effects	No information available.
Reproductive Toxicity	No information available.
Target Organ Effects	None known.

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.

14. TRANSPORT INFORMATION

DOT Not regulated
MEX Not regulated
IATA Not regulated

15. REGULATORY INFORMATION

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Mexico - Grade

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16. OTHER INFORMATION

Revision Date: 2011-11-26

Revision Note: No information available.

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End of Material Safety Data Sheet