

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
9038	Cell Fractionation Kit

Component #	Description
9041S	Cytoplasmic Isolation Buffer (CIB)
9048S	Membrane Isolation Buffer (MIB)
9049S	Cytoskeletal/Nuclear Isolation Buffer (CyNIB)
5871P3	Protease Inhibitor Cocktail (100X)

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code(s) 9041S
Product Name Cytoplasmic Isolation Buffer (CIB)
Pure substance/preparation 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

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 None

Potential Health Effects
Principle Routes of Exposure Skin contact , Eye contact
Acute Toxicity
Eyes May cause slight irritation.
Skin No known effect based on information supplied.
Inhalation May be harmful if inhaled.
Ingestion No known effect based on information supplied.
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

Hazardous Components

Chemical Name	CAS-No	Weight %
Sodium fluoride	7681-49-4	0.1 - 1
Sucrose	57-50-1	5 - 10

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** -

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 -20 °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
Sodium fluoride 7681-49-4	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ TWA: 2.5 mg/m ³
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

NIOSH IDLH: Immediately Dangerous to Life or Health

Chemical Name	ACGIH
Sodium fluoride 7681-49-4	3 10

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	None
pH	7.5
Solubility	Soluble in water
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	Strong acids Oxidizing agents
Hazardous Decomposition Products	None under normal use.

11. TOXICOLOGICAL INFORMATION

Caution: This preparation has not been fully tested. No acute toxicity information is available for this product
95 95 95

Carcinogenicity No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.

Target Organ Effects Eyes, Respiratory system.

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.

Chemical Name	California Hazardous Waste Status
Sodium fluoride	Toxic

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	-
AICCS	-
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 contains the following substances which are regulated 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 fluoride 7681-49-4 (0.1 - 1)	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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

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

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Sucrose	Partially exempt chemical substance under 40 CFR 710.46(b)(2)

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium fluoride	X	X	X		X
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

Legend

NPRI - National Pollutant Release Inventory

Component	NPRI
Sodium fluoride 7681-49-4 (0.1 - 1)	X

16. OTHER INFORMATION

Revision Date: 2012-11-08

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) 9048S
Product Name Membrane Isolation Buffer (MIB)
Pure substance/preparation 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
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 None

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 Components

Chemical Name	CAS-No	Weight %
Sodium fluoride	7681-49-4	0.1 - 1
Sucrose	57-50-1	10 - 30

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 -20 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines Ingredients with workplace control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium fluoride 7681-49-4	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ TWA: 2.5 mg/m ³
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

Chemical Name	ACGIH
Sodium fluoride 7681-49-4	3 10

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	None
pH	pH = 7.5
Solubility	Soluble in water
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	Strong acids Oxidizing agents
Hazardous Decomposition Products	None under normal use.

11. TOXICOLOGICAL INFORMATION

Caution: This preparation has not been fully tested. No acute toxicity information is available for this product

Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.
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.

Chemical Name	California Hazardous Waste Status
Sodium fluoride	Toxic

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 contains the following substances which are regulated 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 fluoride 7681-49-4 (0.1 - 1)	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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

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

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Sucrose	Partially exempt chemical substance under 40 CFR 710.46(b)(2)

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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

Component	NPRI
Sodium fluoride 7681-49-4 (0.1 - 1)	X

16. OTHER INFORMATION

Revision Date: 2012-11-08

Revision Note

No information available.

Disclaimer

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End of Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code(s) 9049S
Product Name Cytoskeletal/Nuclear Isolation Buffer

Pure substance/preparation 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

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

2. HAZARDS IDENTIFICATION

Appearance Clear	Emergency Overview WARNING Irritant	Physical State liquid	Odor None
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OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). Irritant effect on eyes.

Potential Health Effects

Acute Toxicity

Eyes Causes eye irritation.
Skin Causes mild skin irritation.
Inhalation May be harmful if inhaled.
Ingestion No known effect based on information supplied.

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

Hazardous Components

Chemical Name	CAS-No	Weight %
Sodium fluoride	7681-49-4	0.1 - 1
Sodium lauryl sulfate	151-21-3	1 - 3
Sucrose	57-50-1	5 - 10

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 -20 °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
Sodium fluoride 7681-49-4	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³ (vacated) TWA: 2.5 mg/m ³	IDLH: 250 mg/m ³ TWA: 2.5 mg/m ³
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

NIOSH IDLH: Immediately Dangerous to Life or Health

Chemical Name	ACGIH
Sodium fluoride 7681-49-4	3 10

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 None
pH pH = 7.5
Solubility Soluble in water
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 Strong acids Oxidizing agents

Hazardous Decomposition Products None under normal use.

11. TOXICOLOGICAL INFORMATION

Caution: This preparation has not been fully tested. No acute toxicity information is available for this product
87739 87739 87739 87739

Carcinogenicity No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.

Target Organ Effects Eyes, Respiratory system.

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.

Chemical Name	California Hazardous Waste Status
Sodium fluoride	Toxic

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) Irritant effect on eyes

International Inventories

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

U.S. Federal Regulations

SARA 313

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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 contains the following substances which are regulated 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 fluoride 7681-49-4 (0.1 - 1)	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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

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

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Sucrose	Partially exempt chemical substance under 40 CFR 710.46(b)(2)

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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

Legend

NPRI - National Pollutant Release Inventory

Component	NPRI
Sodium fluoride 7681-49-4 (0.1 - 1)	X

16. OTHER INFORMATION

Revision Date: 0011-08-20

Revision Note No information available.

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End of Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Protease Inhibitor Cocktail (100X)**
Product Number **5871**
Identified Uses For Research Use Only (RUO). Not intended for use in humans or animals.
 Not intended for therapeutic or diagnostic procedures.

Manufacturer/Supplier Cell Signaling Technology, Inc.
 3 Trask Lane
 Danvers, MA 01923 USA

Phone #: 1-978-867-2300
Emergency Tel# 1-978-578-6737

2. HAZARDS IDENTIFICATION
Emergency Overview
Danger!

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

Causes respiratory tract, eye, and skin irritation.

May be harmful if absorbed through skin or if swallowed.

Contains material that can cause target organ damage.

Physical State

Liquid

Routes of Entry: Eye contact. Inhalation. Ingestion.

Potential Health Effects
Acute Toxicity

Eyes Corrosive to eyes. Causes burns.
 Skin Corrosive to skin. Causes burns. Harmful in contact with skin.
 Inhalation Corrosive to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
 Ingestion Harmful if swallowed. May cause burns to mouth, throat and stomach.

Chronic Effects

Carcinogenic effects No known significant effects or critical hazards.
 Mutagenic effects No known significant effects or critical hazards.
 Teratogenic effects No known significant effects or critical hazards.
 Reproductive toxicity No known significant effects or critical hazards.
 Sensitization No information available

Target organ effects

Contains material which causes damage to the following organs: mucous membranes, skin, eyes, central nervous system (CNS).

3. COMPOSITION/INFORMATION ON INGREDIENTS
Hazardous Ingredients

Chemical Name	CAS No.	Concentration
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Dimethyl sulfoxide Benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride	67-68-5 30827-99-7	80-95% 1-3 %
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4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water. Get medical attention.
Skin Contact	Rinse immediately with soap and plenty of water. Get medical attention.
Inhalation	Move to fresh air. Get medical attention.
Ingestion	Call Poison Control Center immediately. Never give anything by mouth to an unconscious person. Rinse mouth with water.
Notes to physician	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash Point	See Section 9. Physical and Chemical Properties
Suitable Extinguishing Media	Use dry chemical
Special exposure hazards	No data available
Special protection for fire fighters	Wear appropriate self-contained breathing apparatus and protective unit
Other information	No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not touch or walk through spilled material. Wear personal protective equipment
Environmental precautions	Do not let product enter drains.
Clean up methods	Soak up with absorbent material. Keep in suitable closed containers for disposal.
Other information	See sections 12 and 13 for additional information.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with eyes and skin. Ensure adequate ventilation.
Storage conditions	Keep container tightly closed in a cool dry location.
Incompatibilities	No data available
Specific end uses	No data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits Ingredients with workplace control parameters

Chemical Name	AIHA WEEL (United States 5/2010)
Dimethyl sulfoxide	TWA 250 ppm 8 hours

Exposure Controls
 Apply technical measures to comply with the occupational exposure limits.

Engineering Controls
 Emergency eyewash and safety shower. Mechanical exhaust required.

Hygiene Measures

Do not eat, drink or smoke when handling product. Wash hands thoroughly after handling product. Wash contaminated clothing before reuse.

Personal Protective Equipment

Respiratory Protection:	In case of insufficient ventilation wear suitable respiratory equipment.
Eye Protection:	Safety glasses with side shields
Skin and body protection:	Wear suitable protective clothing, protective shoes or boots.
Hand protection:	Compatible chemical resistant gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	liquid
Appearance	clear
Odor	odorless
pH	no data available
Water Solubility	Soluble
Melting point/freezing point	no data available
Boiling point	no data available
Evaporation rate	no data available
Flash point	Closed cup: >100°C (>212°F) [Product does not sustain combustion.]
Autoignition temperature	no data available
Flammability limits in air	no data available
Explosive properties	no data available
VOC content	no data available
Decomposition temperature	no data available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions/Materials to avoid	No data available
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

To the best of our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

Routes of Exposure
Potential Health Effects

Eyes	Corrosive to eyes. Causes burns.
Skin	Corrosive to skin. Causes burns. Harmful in contact with skin.
Inhalation	Corrosive to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	Harmful if swallowed. May cause burns to mouth, throat and stomach.

Chronic Effects

Ingredient Name	Result	Species	Dose
Dimethyl sulfoxide	LC50 Dermal LD50 Dermal LD50 Oral	Rabbit Rat Rat	>5000 mg/kg 40000 mg/kg 14500 mg/kg
Benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride	Eyes- Mild Irritant Skin- Mild Irritant LD50 Oral	Rabbit Rabbit Mouse	- - 2834 mg/kg

Chronic Effects

Carcinogenic effects	No known significant effects or critical hazards.
Mutagenic effects	No known significant effects or critical hazards.
Teratogenic effects	No known significant effects or critical hazards.
Reproductive toxicity	No known significant effects or critical hazards.
Sensitization	No information available

Ingredient Name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Dimethyl sulfoxide	-	-	-	None	-	None
Benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride	-	-	-	None	-	None

Target organ effects Contains material which causes damage to the following organs: mucous membranes, skin, eyes, central nervous system (CNS).

12. ECOLOGICAL INFORMATION

Ecotoxicity	The environmental impact of this product has not been fully investigated. No known significant effects or critical hazards.
Persistence and degradability	Not available
Bioaccumulation	Not available
Mobility	Not available

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

IATA	Not regulated as dangerous goods
DOT	Not regulated as dangerous goods
MEX	Not regulated as dangerous goods

15. REGULATORY INFORMATION

HCS ClassificationCorrosive material
Target Organ Effects**International Inventories**TSCA (8a) PAIR -
EINECS/ELINCS -
ENCS -
IECSC -
KECL -
PICCS -
AICS -
NZIoC -**U.S. Federal Regulations****SARA 302/304/311/312 extremely hazardous products:** No products were found.**SARA 302/304/311/312 emergency planning and notification:** No products were found.**SARA 302/304/311/312 hazardous chemicals:** Dimethyl sulfoxide, Benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride**SARA 311/312 MSDS Distribution:**

Dimethyl sulfoxide: Immediate (acute) health hazard, Delayed (chronic) health hazard.

Benzenesulfonyl fluoride, 4-(2-aminoethyl)-, hydrochloride: Immediate (acute) health hazard.

Clean Water Act

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

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.

U.S. State Regulations

Massachusetts	None of the components are listed.
New York	None of the components are listed.
New Jersey	The following components are listed: Dimethyl sulfoxide.
Pennsylvania	None of the components are listed.
U.S. Inventory (TSCA 8b)	Not determined.

Canada**WHMIS Hazard Class**

Class E. Corrosive Material

Canadian NPRI	None of the components are listed.
CEPA Toxic Substances	None of the components are listed.
Canada Inventory	Not determined.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

Revision date 2012-06-04

Revision Note ***Indicates updated section

Disclaimer

The information provided on this material safety data sheet is 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