

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

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