



## Safety Data Sheet - Cover Page

The products listed below meet the criteria for classification as hazardous in accordance with The Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Please refer to the indicated Safety Data Sheet (SDS) for information concerning hazards and appropriate protective measures. SDS for products not classified as hazardous are available on request. Visit [www.cellsignal.com](http://www.cellsignal.com) for additional technical information and support.

<b>Kit No.</b>	<b>Product name</b>
14471	PathScan® Intracellular Signaling Membrane Array Kit (Chemiluminescent Readout)

<b>Kit Component No.</b>	<b>Product name</b>
7018	10X Cell Lysis Buffer
14549	Array Membranes
14755	Luminol / Enhancer Solution
MTL2800L	20X Array Wash Buffer



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2014-10-15      **Revision Date:** 2015-02-03

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 14754  
**Product name** Stable Peroxide Buffer  
**Other means of identification** 14754S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

**Signal Word**  
None

**Hazard statement(s)**  
None

**Precautionary Statement(s)**  
None

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** None

## SECTION 3. Composition/information on ingredients

Chemical Name	CAS No	Weight %
sodium salt of weak mineral acid	TRADE SECRET	0.1-1

**Confidential business information** The specific chemical identity and/or percentage of composition is being withheld as a trade secret.

#### SECTION 4. First-aid measures

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Inhalation** Move to fresh air.

**Ingestion** If swallowed, do not induce vomiting - seek medical advice. Rinse mouth. Never give anything by mouth to an unconscious person.

#### Most important symptoms and effects, both acute and delayed

No information available.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### Advice for emergency responders

**General advice** For further assistance, contact your local Poison Control Center.

**Protection of first-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### SECTION 5. Fire-fighting measures

#### Extinguishing media

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

#### Specific hazards arising from the chemical

No information available.

#### Explosion Data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### SECTION 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Ensure adequate ventilation.

**Other information** No information available.

#### Environmental precautions

See Section 12 for additional information.

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

**SECTION 7. Handling and storage****Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	None known based on information supplied.

**SECTION 8. Exposure controls/personal protection****Control parameters**

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

**Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

**Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Do not eat, drink or smoke when using this product.

**SECTION 9. Physical and chemical properties****Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Color</b>	Colorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	5 @ 20 °C
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.

<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
sodium salt of weak mineral acid	1200 mg/kg ( Rat )	-	-

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

<b>Symptoms</b>	No information available.
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<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
sodium salt of weak mineral acid	-	-	EC50 6.98 - 10.68 mg/L (Ceriodaphnia dubia) 48h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

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

### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

## SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

## SECTION 15. Regulatory information

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
sodium salt of weak mineral acid	Not Listed	Not Listed	Not Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

### 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).

**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.

**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 under applicable state right-to-know regulations.

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

**SECTION 16. Other information**

**Issuing Date:** 2014-10-15

**Revision Date:** 2015-02-03

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2015-01-29      **Revision Date:** 2015-01-29

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 14584  
**Product name** HRP-Linked Streptavidin (10X)  
**Other means of identification** 14584P, 14584S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

**Signal Word**  
None

**Hazard statement(s)**  
None

**Precautionary Statement(s)**  
None

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** None

## SECTION 3. Composition/information on ingredients

**Synonyms** 10X HRP-Linked Streptavidin



Chemical Name	CAS No	Weight %
hydrochloric acid	7647-01-0	0-0.1

#### SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water.

#### Most important symptoms and effects, both acute and delayed

No information available.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### Advice for emergency responders

<b>General advice</b>	For further assistance, contact your local Poison Control Center.
<b>Protection of first-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### SECTION 5. Fire-fighting measures

#### Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

#### Specific hazards arising from the chemical

No information available.

#### Explosion Data

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### SECTION 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Ensure adequate ventilation.
<b>Other information</b>	No information available.

#### Environmental precautions

See Section 12 for additional information.

#### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## SECTION 7. Handling and storage

### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	None known based on information supplied.

## SECTION 8. Exposure controls/personal protection

### Control parameters

Occupational exposure limit values			
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
hydrochloric acid	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>	IDLH : 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear
<b>Odor</b>	No information available
<b>Color</b>	Colorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	7.3 - 7.6 @ 25 °C
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available

<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available.
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

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

<b>Symptoms</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
hydrochloric acid	-	LC50 282 mg/L (Gambusia affinis) 96 h	-

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

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

### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

## SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

## SECTION 15. Regulatory information

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
hydrochloric acid	Listed	Not Listed	Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

**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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
hydrochloric acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

**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
hydrochloric acid	5000 lb	5000 lb

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
hydrochloric acid	Listed	Listed	Listed

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

Chemical Name	Controlled Substances (Schedule I - V)	List I or Precursor Chemicals	List II or Essential Chemicals
hydrochloric acid 0-0.1	Not Listed	Not Listed	Listed

**SECTION 16. Other information**

**Issuing Date:** 2015-01-29

**Revision Date:** 2015-01-29

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



# Cell Signaling

TECHNOLOGY®

**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2015-01-29      **Revision Date:** 2015-02-03

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 14571  
**Product name** Detection Ab Cocktail (10X)  
**Other means of identification** 14571L, 14571S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

**Signal Word**  
None

**Hazard statement(s)**  
None

**Precautionary Statement(s)**  
None

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** None

## SECTION 3. Composition/information on ingredients

**Synonyms** 10X Detection Antibody Cocktail

Chemical Name	CAS No	Weight %
hydrochloric acid	7647-01-0	0-0.1
glycerol	56-81-5	7-13

#### SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	If swallowed, do not induce vomiting - seek medical advice.

#### Most important symptoms and effects, both acute and delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### Advice for emergency responders

<b>General advice</b>	For further assistance, contact your local Poison Control Center.
<b>Protection of first-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### SECTION 5. Fire-fighting measures

#### Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

#### Specific hazards arising from the chemical

No information available.

#### Explosion Data

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### SECTION 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Ensure adequate ventilation.
<b>Other information</b>	No information available.

#### Environmental precautions

See Section 12 for additional information.

#### Methods and material for containment and cleaning up



**Methods for containment** Prevent further leakage or spillage if safe to do so.  
**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## SECTION 7. Handling and storage

### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.  
**Packaging material** No information available.  
**Incompatible products** None known based on information supplied.

## SECTION 8. Exposure controls/personal protection

### Control parameters

Occupational exposure limit values			
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
hydrochloric acid	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>	IDLH : 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>
glycerol	-	TWA mist, total particulate: 15 mg/m <sup>3</sup> TWA mist, respirable fraction: 5 mg/m <sup>3</sup>	-

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

**Eye/face protection** Safety glasses with side-shields.  
**Skin and body protection** Wear protective gloves/clothing.  
**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Clear  
**Odor** No information available  
**Color** Colorless  
**Odor Threshold** No information available  
**pH** 7.3 - 7.6 @ 25 °C

<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available.
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation of respiratory tract. Mist may be injurious to the kidneys at very high exposure levels.
<b>Eye contact</b>	Contact with eyes may cause mild irritation.
<b>Skin contact</b>	May cause slight irritation after prolonged contact with skin.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
glycerol	12600 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit )	-

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

<b>Symptoms</b>	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Eyes, Respiratory system, Kidney, Skin.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

### SECTION 12. Ecological information

#### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
hydrochloric acid	-	LC50 282 mg/L (Gambusia affinis) 96 h	-
glycerol	-	LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h	EC50 500 mg/L (Daphnia magna) 24 h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

Chemical Name	Octanol-Water Partition Coefficient
glycerol	-1.76

#### Other adverse effects

No information available.

### SECTION 13. Disposal considerations

#### Waste Disposal Methods

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

#### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

### SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

## SECTION 15. Regulatory information

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
hydrochloric acid	Listed	Not Listed	Listed	Not Listed
glycerol	Listed	Not Listed	Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

### 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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
hydrochloric acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

### 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
hydrochloric acid	5000 lb	5000 lb

### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
glycerol	Listed	Listed	Listed

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

Chemical Name	Controlled Substances (Schedule I - V)	List I or Precursor Chemicals	List II or Essential Chemicals
hydrochloric acid 0-0.1	Not Listed	Not Listed	Listed

**SECTION 16. Other information**

**Issuing Date:** 2015-01-29

**Revision Date:** 2015-02-03

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2015-01-29      **Revision Date:** 2015-01-29

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 14560  
**Product name** Membrane Array Diluent Buffer  
**Other means of identification** 14560L, 14560P, 14560S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

**Signal Word**  
None

**Hazard statement(s)**  
None

**Precautionary Statement(s)**  
None

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** None

## SECTION 3. Composition/information on ingredients

Chemical Name	CAS No	Weight %
hydrochloric acid	7647-01-0	0-0.1

#### SECTION 4. First-aid measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	If swallowed, do not induce vomiting - seek medical advice.

#### Most important symptoms and effects, both acute and delayed

No information available.

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

#### Advice for emergency responders

<b>General advice</b>	For further assistance, contact your local Poison Control Center.
<b>Protection of first-aiders</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### SECTION 5. Fire-fighting measures

#### Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable Extinguishing Media</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

#### Specific hazards arising from the chemical

No information available.

#### Explosion Data

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### SECTION 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	Ensure adequate ventilation.
<b>Other information</b>	No information available.

#### Environmental precautions

See Section 12 for additional information.

#### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
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**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## SECTION 7. Handling and storage

### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.  
**Packaging material** No information available.  
**Incompatible products** None known based on information supplied.

## SECTION 8. Exposure controls/personal protection

### Control parameters

Occupational exposure limit values			
Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
hydrochloric acid	Ceiling: 2 ppm	Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>	IDLH : 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m <sup>3</sup>

### Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

**Eye/face protection** Safety glasses with side-shields.  
**Skin and body protection** Wear protective gloves/clothing.  
**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.  
**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Clear  
**Odor** No information available  
**Color** Colorless  
**Odor Threshold** No information available  
**pH** 7.3 - 7.6 @ 25 °C  
**Melting point/freezing point** No information available  
**Initial boiling point and boiling range** No information available  
**Flash point** No information available.  
**Evaporation rate** No information available  
**Flammability (solid, gas)** No information available



<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available.
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	There is no data available for this product.
<b>Eye contact</b>	There is no data available for this product.
<b>Skin contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

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

<b>Symptoms</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
hydrochloric acid	-	LC50 282 mg/L (Gambusia affinis) 96 h	-

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

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

### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

## SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

## SECTION 15. Regulatory information

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
hydrochloric acid	Listed	Not Listed	Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

### 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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
hydrochloric acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

**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
hydrochloric acid	5000 lb	5000 lb

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
hydrochloric acid	Listed	Listed	Listed

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

Chemical Name	Controlled Substances (Schedule I - V)	List I or Precursor Chemicals	List II or Essential Chemicals
hydrochloric acid 0-0.1	Not Listed	Not Listed	Listed

**SECTION 16. Other information**

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**Issuing Date:** 2015-01-29

**Revision Date:** 2015-01-29

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2014-10-27      **Revision Date:** 2015-01-29

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** MTL2800L  
**Product name** 20X Array Wash Buffer

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400  
**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Serious eye damage/eye irritation</b>	Category 2B
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### GHS Label elements, including precautionary statements

**Signal Word**  
Warning

**Hazard statement(s)**  
Causes eye irritation

**Precautionary Statement(s)**  
Wash face, hands and any exposed skin thoroughly after handling  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** None

## SECTION 3. Composition/information on ingredients

Chemical Name	CAS No	Weight %
Sorbitan monolaurate, ethoxylated	9005-64-5	0.1-1
sodium chloride	7647-14-5	10-30

**SECTION 4. First-aid measures**

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Inhalation** Move to fresh air.

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

**Most important symptoms and effects, both acute and delayed**

No information available.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

**General advice** For further assistance, contact your local Poison Control Center.

**Protection of first-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**SECTION 5. Fire-fighting measures**

**Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Ensure adequate ventilation.

**Other information** No information available.

**Environmental precautions**

See Section 12 for additional information.

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

**SECTION 7. Handling and storage**

**Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
<b>Packaging material</b>	No information available.
<b>Incompatible products</b>	None known based on information supplied.

**SECTION 8. Exposure controls/personal protection**

**Control parameters**

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

**Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

**Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Safety glasses with side-shields.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**SECTION 9. Physical and chemical properties**

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear
<b>Odor</b>	No information available
<b>Color</b>	Colorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	7.4 @ 20 °C
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.

<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available.
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

**SECTION 10. Stability and reactivity**

**Reactivity**

No information available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

<b>Hazardous reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	None under normal processing.

**Conditions to Avoid**

No information available.

**Incompatible Materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

**SECTION 11. Toxicological information**

**Information on likely routes of exposure**

<b>Inhalation</b>	Not an expected route of exposure. Aerosol expected to be irritating based on components.
<b>Eye contact</b>	Contact with eyes may cause mild irritation.
<b>Skin contact</b>	May cause slight irritation after prolonged contact with skin.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Information on toxicological effects**

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sorbitan monolaurate, ethoxylated	3550 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit )	> 42000 mg/kg ( Rat )
sodium chloride	3000 mg/kg ( Rat )	-	-

**ATEmix (oral)** 17818 mg/kg



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

<b>Symptoms</b>	No information available.
<b>Serious eye damage/eye irritation</b>	Mildly irritating to eyes.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

**SECTION 12. Ecological information**

**Ecotoxicity**

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
sodium chloride	-	LC50 4747 - 7824 mg/L (Oncorhynchus mykiss) 96 h LC50 12946 mg/L (Lepomis macrochirus) 96 h LC50 5560 - 6080 mg/L (Lepomis macrochirus) 96 h LC50 6420 - 6700 mg/L (Pimephales promelas) 96 h LC50 7050 mg/L (Pimephales promelas) 96 h LC50 6020 - 7070 mg/L (Pimephales promelas) 96 h	EC50 340.7 - 469.2 mg/L (Daphnia magna) 48 h EC50 1000 mg/L (Daphnia magna) 48 h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available

**Other adverse effects**

No information available.

**SECTION 13. Disposal considerations**

**Waste Disposal Methods**

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

**Disposal considerations**

Do not empty into drains; dispose of this material and its container in a safe way.

**SECTION 14. Transport information**


This material is not subject to regulation as a hazardous material for shipping.

**SECTION 15. Regulatory information**

**North American Inventory Listing**

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
Sorbitan monolaurate, ethoxylated	Listed	Not Listed	Listed	Not Listed
sodium chloride	Listed	Not Listed	Listed	Not Listed

**Canadian Workplace Hazardous Materials Information System (WHMIS) Classification**

	Class D2B - Toxic Material at >= 1%
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**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	Yes
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).

**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.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

This product contains the following U.S. State Right to Know chemicals:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
disodium hydrogenorthophosphate	Listed	Listed	Listed

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

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**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

<b>SECTION 16. Other information</b>
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**Issuing Date:** 2014-10-27

**Revision Date:** 2015-01-29

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2014-01-31 **Revision Date:** 2015-02-03

**Version:** 1

**SECTION 1. Identification**

**Product identifier**

**Product number** 14755  
**Product name** Luminol / Enhancer Solution  
**Other means of identification** 14755S

**Recommended use of the chemical and restrictions on use**

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
 This product is not intended for use in humans or animals.

**Manufacturer, importer, supplier**

**Manufacturer address** Cell Signaling Technology, Inc.  
 3 Trask Lane  
 Danvers, MA 01923  
 United States  
 TEL: +1 978 867 2300  
 FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

**SECTION 2. Hazard(s) identification**

**Classification**

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2
<b>Specific target organ toxicity - repeated exposure (STOT RE)</b>	Category 2

**GHS Label elements, including precautionary statements**



**Signal Word**  
 Warning

**Hazard statement(s)**

Causes skin irritation  
 Causes serious eye irritation  
 May cause damage to organs through prolonged or repeated exposure

**Precautionary Statement(s)**

Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray.

Get medical advice/attention if you feel unwell.

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Supplementary Hazard Information**

Hazards not otherwise classified (HNOC) None

### SECTION 3. Composition/information on ingredients

**Chemical nature** Aqueous solution of organic and inorganic compounds

Chemical Name	CAS No	Weight %
trometamol	77-86-1	1-5
ethanediol	107-21-1	1-3

### SECTION 4. First-aid measures

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Inhalation** Move to fresh air.

**Ingestion** If swallowed, do not induce vomiting - seek medical advice. Rinse mouth. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

Irritation to eyes, skin, nose, throat; nausea, vomiting, abdominal pain, lassitude (weakness, exhaustion); dizziness, stupor, convulsions, central nervous system depression.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

**General advice** For further assistance, contact your local Poison Control Center.

**Protection of first-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### SECTION 5. Fire-fighting measures

**Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

### **Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Ensure adequate ventilation.

**Other information** No information available.

### **Environmental precautions**

See Section 12 for additional information.

### **Methods and material for containment and cleaning up**

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

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice.

### **Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Packaging material** No information available.

**Incompatible products** Strong oxidizing agents, chromium trioxide, potassium permanganate, sodium peroxide.

## **SECTION 8. Exposure controls/personal protection**

### **Control parameters**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
ethanediol	Ceiling: 100 mg/m <sup>3</sup>	-	-

### **Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

### **Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

**Eye/face protection** Safety glasses with side-shields.

**Skin and body protection** Wear protective gloves/clothing.

<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Do not eat, drink or smoke when using this product.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Color</b>	Colorless, light pink
<b>Odor Threshold</b>	No information available
<b>pH</b>	9.5 @ 20 °C
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	Vapors may form explosive mixtures with air.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

No information available.

### Incompatible Materials

Strong oxidizing agents, chromium trioxide, potassium permanganate, sodium peroxide.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Expected to be an irritant based on components.
<b>Skin contact</b>	Expected to be an irritant based on components.
<b>Ingestion</b>	May cause adverse kidney effects.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
trometamol	5900 mg/kg ( Rat )	-	-
ethanediol	-	-	-

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

<b>Symptoms</b>	Irritation to eyes, skin, nose, throat; nausea, vomiting, abdominal pain, lassitude (weakness, exhaustion); dizziness, stupor, convulsions, central nervous system depression.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure: Kidney, Respiratory system.
<b>Target Organ Effects</b>	Central nervous system (CNS), Eyes, Skin, Respiratory system, Kidney.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
trometamol	-	-	NOEC >100 mg/L (Selenastrum capricornutum) 96 h
ethanediol	EC50 6500 - 13000 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 40761 mg/L (Oncorhynchus mykiss) 96 h LC50 27540 mg/L (Lepomis macrochirus) 96 h LC50 41000 mg/L (Oncorhynchus mykiss) 96 h LC50 14 - 18 mL/L (Oncorhynchus mykiss) 96 h LC50 40000 - 60000 mg/L (Pimephales promelas) 96 h LC50 16000 mg/L (Poecilia reticulata) 96 h	EC50 46300 mg/L (Daphnia magna) 48 h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.



**Mobility**

Will likely be mobile in the environment due to its water solubility but will likely degrade over time

Chemical Name	Octanol-Water Partition Coefficient
ethanediol	-1.93

**Other adverse effects**

No information available.

### SECTION 13. Disposal considerations

**Waste Disposal Methods**

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

**Disposal considerations**

Do not empty into drains; dispose of this material and its container in a safe way.

### SECTION 14. Transport information


This material is not subject to regulation as a hazardous material for shipping.

### SECTION 15. Regulatory information

**North American Inventory Listing**

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
trometamol	Listed	Not Listed	Listed	Not Listed
ethanediol	Listed	Not Listed	Listed	Not Listed

**Canadian Workplace Hazardous Materials Information System (WHMIS) Classification**

	Class D2B - Toxic Material at >= 1%
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**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:

Chemical Name	CAS No	SARA 313 - Threshold Values %
ethanediol	107-21-1	1.0

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
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).

### 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
ethanediol	5000 lb	Not Listed

### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

This product contains the following U.S. State Right to Know chemicals:

Chemical Name	New Jersey	Massachusetts	Pennsylvania
ethanediol	Listed	Listed	Listed

### U.S. FIFRA Label Information

This product does not contain any substances regulated as pesticides.

### US Commerce Department - Export Administration Regulations Information

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

### U.S. Drug Enforcement Administration Information

This product does not contain any substances regulated under the DEA.

## SECTION 16. Other information

**Issuing Date:** 2014-01-31

**Revision Date:** 2015-02-03

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200  
**Issuing Date:** 2014-01-31      **Revision Date:** 2014-10-21

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 14549  
**Product name** Array Membranes  
**UN number** UN3270  
**Other means of identification** 14549P, 14549S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400

**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<b>Flammable solids</b>	Category 1
-------------------------	------------

### GHS Label elements, including precautionary statements



**Signal Word**  
Danger

**Hazard statement(s)**  
Flammable solid

**Precautionary Statement(s)**

Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
 Ground/Bond container and receiving equipment  
 Wear protective gloves/protective clothing/eye protection/face protection

**Supplementary Hazard Information**

Hazards not otherwise classified (HNOC) None

### SECTION 3. Composition/information on ingredients

**Chemical nature** Lyophilized mixture of organic and inorganic compounds coating nitric esters of cellulose  
**Synonyms** cellulose nitrate, nitrocellulose, nitrocellulose membrane filter.

Chemical Name	CAS No	Weight %
nitrocellulose, containing a maximum of 12,6 % nitrogen	9004-70-0	60-100

### SECTION 4. First-aid measures

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.  
 Consult a physician.  
**Skin contact** Wash skin with soap and water.  
**Inhalation** Move to fresh air.  
**Ingestion** Clean mouth with water and afterwards drink plenty of water.

**Most important symptoms and effects, both acute and delayed**

No information available.

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**Advice for emergency responders**

**General advice** For further assistance, contact your local Poison Control Center.  
**Protection of first-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### SECTION 5. Fire-fighting measures

**Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
**Unsuitable Extinguishing Media** None.

**Specific hazards arising from the chemical**

Extremely flammable. Will be easily ignited by heat, sparks or flames.

**Explosion Data**

**Sensitivity to Mechanical Impact** Not impact sensitive.  
**Sensitivity to Static Discharge** Yes.

**Protective Equipment and Precautions for Firefighters**

In the event of fire and/or explosion do not breathe fumes. Use self-contained pressure-demand breathing apparatus if needed to prevent exposure to smoke or airborne toxins.

## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- |                                    |   |
|------------------------------------|---|
| <b>For non-emergency personnel</b> | ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). During unexpected circumstances and elevated temperatures such as a fire, evacuate personnel to safe areas and use personal protective equipment to prevent exposure to volatiles. |
| <b>Other information</b>           | Keep substance wet using water spray.   |
| <b>For emergency responders</b>    | Use personal protective equipment as required.  |

### Environmental precautions

Should not be released into the environment. See Section 12 for additional information.

### Methods and material for containment and cleaning up

- |                                |  |
|--------------------------------|--|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so.  |
| <b>Methods for cleaning up</b> | Use personal protective equipment. Flush area with flooding quantities of water. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. |

## SECTION 7. Handling and storage

### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Take precautionary measures against static discharges. Remove all sources of ignition. Use according to package label instructions.

### Conditions for safe storage, including any incompatibilities

- |  |   |
|--|---|
| <b>Technical measures/Storage conditions</b> | Keep at temperatures below 4°C. Stable at recommended temperature for up to 6 months. |
| <b>Packaging material</b>                    | No information available.   |
| <b>Incompatible products</b>                 | Strong oxidizing agents, strong acids, and strong bases.                              |

## SECTION 8. Exposure controls/personal protection

### Control parameters

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

### Appropriate engineering controls

Process enclosure and/or ventilation systems.

### Individual protection measures, such as personal protective equipment

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

- |                                 |  |
|---------------------------------|--|
| <b>Eye/face protection</b>      | Safety glasses with side-shields.  |
| <b>Skin and body protection</b> | Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. |

<b>Respiratory protection</b>	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.
<b>Hygiene measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Membrane
<b>Odor</b>	Odorless
<b>Color</b>	White with red dots
<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available.
<b>Lower flammability limit</b>	No information available.
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available.
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	>160 °C
<b>Decomposition temperature</b>	No information available.
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available.
<b>Density</b>	No information available.

## SECTION 10. Stability and reactivity

### Reactivity

Reacts with incompatible materials causing a fire and explosion hazard.

### Chemical stability

Stable under recommended storage conditions. Decomposes violently under high temperature.

### Possibility of hazardous reactions

<b>Hazardous reactions</b>	Exothermic reaction possible with strong oxidizers.
<b>Hazardous polymerization</b>	None under normal processing.

### Conditions to Avoid

Heat, flames and sparks. Exposure to UV-rays. Storage near to reactive materials.

### Incompatible Materials

Strong oxidizing agents, strong acids, and strong bases.

### Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions: Nitrogen oxides (NOx), Carbon oxides (COx), Aldehydes.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Not an expected route of exposure.
<b>Eye contact</b>	Not an expected route of exposure.
<b>Skin contact</b>	No known hazard in contact with skin.
<b>Ingestion</b>	No known hazard by swallowing.

### Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
nitrocellulose, containing a maximum of 12,6 % nitrogen	> 5000 mg/kg ( Rat )	-	-

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

<b>Symptoms</b>	No information available.
<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	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.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Neurological effects</b>	No information available.
<b>Aspiration Hazard</b>	No information available.

## SECTION 12. Ecological information

### Ecotoxicity

Product does not present an aquatic toxicity hazard based on known or supplied information.

<b>Persistence and degradability</b>	No data is available on the product itself.
<b>Bioaccumulation</b>	Not likely to bioaccumulate.
<b>Mobility</b>	Is not likely mobile in the environment

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

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

### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

## SECTION 14. Transport information

### DOT

<b>UN number</b>	UN3270
<b>UN proper shipping name</b>	Nitrocellulose membrane filters
<b>Transport hazard class(es)</b>	4.1
<b>Packing group</b>	II
<b>Special provisions</b>	43, A1
<b>Emergency response guide number</b>	133

### IATA


<b>UN number</b>	UN3270
<b>UN proper shipping name</b>	Nitrocellulose membrane filters
<b>Transport hazard class(es)</b>	4.1
<b>Packing group</b>	II
<b>ERG code</b>	3L

## SECTION 15. Regulatory information

### North American Inventory Listing

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
nitrocellulose, containing a maximum of 12,6 % nitrogen	Listed	Not Listed	Listed	Not Listed

### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

	Class B4 - Flammable Solids
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### 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

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	Yes
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	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).

### 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.

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

#### **U.S. State Right-to-Know Regulations**

This product contains the following U.S. State Right to Know chemicals:

<b>Chemical Name</b>	<b>New Jersey</b>	<b>Massachusetts</b>	<b>Pennsylvania</b>
nitrocellulose, containing a maximum of 12,6 % nitrogen	Listed	Listed	Listed

#### **U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

#### **US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

#### **U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

### **SECTION 16. Other information**

**Issuing Date:** 2014-01-31

**Revision Date:** 2014-10-21

#### **Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**



# Cell Signaling

TECHNOLOGY®

**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2014-02-10

**Revision Date:** 2014-02-11

**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product No.** 7018  
**Product name** PathScan® Sandwich ELISA Lysis Buffer (1X)  
**Other means of identification** 7018M, 7018P2, 7018S

### Recommended use of the chemical and restrictions on use

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400  
**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Company phone number** 978-867-2300  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

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

<b>Serious eye damage/eye irritation</b>	Category 2A
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### GHS Label elements, including precautionary statements



**Signal Word**  
Warning

**Hazard statement(s)**

Causes serious eye irritation

### Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)** Contact with acids liberates very toxic gas

## SECTION 3. Composition/information on ingredients

**Chemical nature** Aqueous solution of organic and inorganic compounds.

Chemical Name	CAS No.	Weight %
sodium fluoride	7681-49-4	0.1-1
tetrasodium pyrophosphate, decahydrate	13472-36-1	0.1-1
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	0.5-1.5

## SECTION 4. First-aid measures

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact** Wash skin with soap and water.

**Inhalation** Move to fresh air.

**Ingestion** Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting - seek medical advice. Rinse mouth.

### Most important symptoms and effects, both acute and delayed

No information or data specific to the product on this toxicological (health) effect is available.

### Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

### Advice for emergency responders

**General advice** For further assistance, contact your local Poison Control Center.

**Protection of First-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## SECTION 5. Fire-fighting measures

### Extinguishing media

**Suitable Extinguishing Media** Use: Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol-resistant foam.

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment.

**Other information** No information available.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

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

**Methods for cleaning up** Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**SECTION 7. Handling and storage****Precautions for safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions** Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**Packaging material** No information available.

**Incompatible products** None known based on information supplied.

**SECTION 8. Exposure controls/personal protection****Control parameters**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
sodium fluoride 7681-49-4	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup> (vacated) TWA: 2.5 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> TWA: 2.5 mg/m <sup>3</sup>
tetrasodium pyrophosphate, decahydrate 13472-36-1	-	(vacated) TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> (Listed as: Tetrasodium pyrophosphate)

(vacated) = Vacated limits revoked by the Court of Appeals decision in *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir., 1992).

**Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

### **Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

<b>Eye/face protection</b>	Tightly fitting safety goggles.
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## **SECTION 9. Physical and chemical properties**

### **Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	No information available
<b>Odor</b>	No information available
<b>Color</b>	Clear
<b>Odor Threshold</b>	No information available
<b>pH</b>	7.5
<b>Melting point/freezing point</b>	No information available
<b>Initial boiling point and boiling range</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Upper flammability limit</b>	No information available
<b>Lower flammability limit</b>	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	No information available
<b>Solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>VOC content</b>	No information available
<b>Viscosity</b>	No information available
<b>Density</b>	No information available

## **SECTION 10. Stability and reactivity**

### **Reactivity**

No information available.

### **Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

**Hazardous reactions** None under normal processing.  
**Hazardous polymerization** None under normal processing.

**Conditions to Avoid**

No information available.

**Incompatible Materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

**SECTION 11. Toxicological information****Information on likely routes of exposure**

**Inhalation** There is no data available for this product.  
**Eye contact** Expected to be an irritant based on components.  
**Skin contact** There is no data available for this product.  
**Ingestion** There is no data available for this product.

**Information on toxicological effects**

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
sodium fluoride 7681-49-4	= 52 mg/kg ( Rat )	= 175 mg/kg ( Rat )	-
tetrasodium pyrophosphate, decahydrate 13472-36-1	> 2000 mg/kg ( Rat )	-	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylet her 9002-93-1	= 1,800 mg/kg (Rat)	= 8,000 mg/kg (Rabbit)	-

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

**Symptoms** No information available.  
**Corrosivity** No information available.  
**Sensitization** No information available.  
**Mutagenic effects** No information available.  
**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.  
**Reproductive toxicity** No information available.  
**Developmental Toxicity** No information available.  
**Teratogenicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Neurological effects** No information available.  
**Aspiration Hazard** No information available.  
**Endocrine Disruptor Information** No information available.

## SECTION 12. Ecological information

### Ecotoxicity

99.02% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
sodium fluoride 7681-49-4	EC50 850 mg/L (Desmodesmus subspicatus) 72 h EC50 272 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 180 mg/L (Pimephales promelas) 96 h LC50 830 mg/L (Lepomis macrochirus) 96 h LC50 38 - 68 mg/L (Oncorhynchus mykiss) 96 h LC50 530 mg/L (Lepomis macrochirus) 96 h	EC50 338 mg/L (Daphnia magna) 48 h EC50 98 mg/L (Daphnia magna) 48 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether 9002-93-1		LC50: 8.9 mg/L (Pimephales promelas) 96 h	EC50: 26 mg/L (Daphnia) 48 h

<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	No information available.
<b>Mobility</b>	No information available.

### Other adverse effects

No information available.

## SECTION 13. Disposal considerations

### Waste Disposal Methods

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

### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way.

**California Waste Status** This product contains one or more substances that are listed with the State of California as a hazardous waste

Chemical Name	California Hazardous Waste Status
sodium fluoride 7681-49-4	Toxic

## SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

## SECTION 15. Regulatory information

**All of the components in the product are on the following Inventory lists:**

<b>TSCA</b>	-
<b>DSL</b>	-
<b>NDSL</b>	Complies

**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**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
sodium fluoride 7681-49-4	1000 lb			X

**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
sodium fluoride 7681-49-4	1000 lb	

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
sodium fluoride 7681-49-4	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate 13472-36-1	Listed	Listed	Listed

**U.S. EPA Label Information**

This product does not contain any substances regulated as pesticides.

<b>SECTION 16. Other information</b>
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**Issuing Date:** 2014-02-10  
**Revision Date:** 2014-02-11  
**Disclaimer**



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End of Safety Data Sheet