

### Kit Summary

**Product Code(s)** AB181415  
**Product name** Human PDH E1 alpha protein ELISA Kit (PDHA1)

#### 4X Antibody Diluent EB

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Proclin	-	55965-84-9	0.05	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-

#### TMB Substrate

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
TMB	-	54827-17-7	0.05	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-
Hydrogen peroxide	231-765-0	7722-84-1	0.010	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Corr. 1A (H314) Eye Dam. 1 (H318)	No data available

#### Stop Solution

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Phosphoric acid	231-633-2	7664-38-2	4.9	Skin Corr. 1B (H314)	

#### Sample Diluent NS (ab193972)

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
EDTA	200-449-4	60-00-4	0.15	Eye Irrit. 2 (H319)	No data available
Proclin	-	55965-84-9	0.05	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-

#### PDH E1 alpha Human Lyophilized Recombinant Protein

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
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Tris	201-064-4	77-86-1	0.66	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-
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### 2X Cell Extraction Buffer LM

Chemical Name	EC-No	CAS-No	Weight %	Classification (Reg. 1272/2008)	REACH Registration Number
Sodium pyrophosphate decahydrate	-	13472-36-1	0.22	Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)	No data available
Sodium fluoride	231-667-8	7681-49-4	0.08	Acute Tox. 3 (H301) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) (EUH032)	No data available
Sodium orthovanadate	237-287-9	13721-39-6	0.07	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)	No data available

### GHS / CLP - GHS - Classification



#### Signal Word

Warning

#### Hazard statements

H317 - May cause an allergic skin reaction

#### Precautionary Statements - EU (§28, 1272/2008)

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention  
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/ eye protection/ face protection  
P363 - Wash contaminated clothing before reuse  
P501 - Dispose of contents/ container to an approved waste disposal plant

### 2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

### TRANSPORT INFORMATION

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

# Safety Data Sheet

Issuing date No data available

Revision Date 16-May-2017

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 4X Antibody Diluent EB

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Skin sensitization	Category 1
Ozone	Not applicable

### GHS Label elements, including precautionary statements



### Signal Word

Warning

### Hazard statements

H317 - May cause an allergic skin reaction

### Precautionary Statements - EU (§28, 1272/2008)

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention  
P363 - Wash contaminated clothing before reuse  
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/ eye protection/ face protection  
P501 - Dispose of contents/ container to an approved waste disposal plant

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Proclin	55965-84-9	<0.1	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	May cause sensitization of susceptible persons. Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions</b>	Use personal protective equipment. Avoid contact with the skin and the eyes.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

**7. HANDLING AND STORAGE**

<b>Advice on safe handling</b>	Ensure adequate ventilation. Wear personal protective equipment.
<b>Technical measures/Storage conditions</b>	Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering measures</b>	Showers Eyewash stations Ventilation systems
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Tightly fitting safety goggles.
<b>Skin and body protection</b>	No special protective equipment required.
<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>	When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** May cause sensitization of susceptible persons.

### Chronic toxicity

**Chronic toxicity** Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure

**Sensitization** As a precaution the product should be treated as a sensitizer.

**Target Organ Effects** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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

## 13. DISPOSAL CONSIDERATIONS

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### **SARA 311/312 Hazard Categories**

<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 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.

### U.S. State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

### International Regulations

#### **WHMIS Note:**

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

## 16. OTHER INFORMATION

#### **Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects H311 - Toxic in contact with skin H331 - Toxic if inhaled H301 - Toxic if swallowed

#### **Hazard statements**

H317 - May cause an allergic skin reaction

**Revision Date** 16-May-2017

**Revision Note** No information available.

#### **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 MSDS**

# Safety Data Sheet

**Issuing date** No data available

**Revision Date** 16-May-2017

**Version** 4

## 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	<b>TMB Substrate</b>
<b>Recommended use</b>	For research use only
<b>Supplier Address</b>	Abcam Inc 1 Kendall Square, Ste 341 Cambridge, MA 02139-1517 USA Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
<b>E-mail address</b>	technical@abcam.com
<b>Emergency telephone</b>	Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
TMB	54827-17-7	<0.1	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)
Hydrogen peroxide	7722-84-1	<0.1	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Corr. 1A (H314) Eye Dam. 1 (H318)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- 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.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                Handle in accordance with good industrial hygiene and safety practice.
- Technical measures/Storage conditions**    Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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

*NIOSH IDLH: Immediately Dangerous to Life or Health*

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

**Engineering measures**                    Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection**                    No special protective equipment required.
- Skin and body protection**            No special protective equipment required.
- 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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available		
<b>Explosion limits</b>	No information available		
<b>Specific Gravity</b>	No data available	<b>solubility</b>	No information available.
<b>Evaporation rate</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Vapor density</b>	No data available	<b>VOC Content(%)</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrogen peroxide	801 mg/kg ( Rat )	4060 mg/kg ( Rat ) 2000 mg/kg ( Rabbit )	2 mg/L ( Rat ) 4 h

### Chronic toxicity

**carcinogenicity** This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydrogen peroxide	A3	Group 3		

**Target Organ Effects** None known.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Hydrogen peroxide	2.5: 72 h Chlorella vulgaris mg/L EC50	16.4: 96 h Pimephales promelas mg/L LC50 18-56: 96 h Lepomis macrochirus mg/L LC50 static 10.0-32.0: 96 h Oncorhynchus mykiss mg/L LC50 static		7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

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
Hydrogen peroxide	Toxic Corrosive Ignitable Reactive

**14. TRANSPORT INFORMATION**

**DOT** Not dangerous goods  
**IATA** Not dangerous goods  
**ADR** Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

**Clean Water Act**

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

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Hydrogen peroxide		1000 lb	

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Hydrogen peroxide	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Hydrogen peroxide	A3	Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m <sup>3</sup> Mexico: STEL 2 ppm Mexico: STEL 3 mg/m <sup>3</sup>

**WHMIS Note:**

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

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H335 - May cause respiratory irritation H315 - Causes skin irritation H319 - Causes serious eye irritation H302 - Harmful if swallowed H332 - Harmful if inhaled H314 - Causes severe skin burns and eye damage H318 - Causes serious eye damage

**Revision Date** 16-May-2017  
**Revision Note** No information available.

**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 MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 16-May-2017

Version 4

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Stop Solution

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Phosphoric acid	7664-38-2	1-5	Skin Corr. 1B (H314)

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<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.

#### 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phosphoric acid 7664-38-2	STEL: 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup> (vacated) STEL: 3 mg/m <sup>3</sup>	IDLH: 1000 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>

*NIOSH IDLH: Immediately Dangerous to Life or Health*

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

**Engineering measures**  
Showers  
Eyewash stations  
Ventilation systems

### Personal protective equipment

**Eye/face protection**

No special protective equipment required.

**Skin and body protection**

No special protective equipment required.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.



## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phosphoric acid	1530 mg/kg ( Rat )	2730 mg/kg ( Rabbit )	850 mg/m <sup>3</sup> ( Rat ) 1 h

### Chronic toxicity

**Target Organ Effects** Eyes. Respiratory system. Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Phosphoric acid		3 - 3.5: 96 h Gambusia affinis mg/L LC50		4.6: 12 h Daphnia magna mg/L EC50

## 13. DISPOSAL CONSIDERATIONS

### **Waste disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

### **Contaminated packaging**

Do not re-use empty containers.

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
Phosphoric acid	Corrosive

## 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**IATA** Not dangerous goods

**ADR** Not dangerous goods

## 15. REGULATORY INFORMATION

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

**Clean Water Act**

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphoric acid	5000 lb			X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Phosphoric acid	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Phosphoric acid	X	X	X		X

**International Regulations**

Chemical Name	Carcinogen Status	Exposure limits
Phosphoric acid		Mexico: TWA 1 mg/m <sup>3</sup> Mexico: STEL 3 mg/m <sup>3</sup>

**WHMIS Note:**

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

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage

Revision Date 16-May-2017  
Revision Note No information available.

**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 MSDS

# Safety Data Sheet

Issuing date No data available

Revision Date 16-May-2017

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** Sample Diluent NS (ab193972)

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Skin sensitization	Category 1
Ozone	Not applicable

### GHS Label elements, including precautionary statements



### Signal Word

Warning

### Hazard statements

H317 - May cause an allergic skin reaction

### Precautionary Statements - EU (§28, 1272/2008)

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention  
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves/ eye protection/ face protection  
P363 - Wash contaminated clothing before reuse  
P501 - Dispose of contents/ container to an approved waste disposal plant

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
EDTA	60-00-4	0.1-1	Eye Irrit. 2 (H319)
Proclin	55965-84-9	<0.1	Skin Corr. 1B (H314) Skin Sens. 1 (H317) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>General advice</b>	If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	May cause sensitization of susceptible persons. Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Specific hazards arising from the chemical</b>	Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes May cause sensitization by inhalation and skin contact

**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 to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** Use personal protective equipment. Avoid contact with the skin and the eyes.

**Environmental precautions** Try to prevent the material from entering drains or water courses.

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

**Methods for cleaning up** Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

**7. HANDLING AND STORAGE**

**Advice on safe handling** Ensure adequate ventilation. Wear personal protective equipment.

**Technical measures/Storage conditions** Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

**Engineering measures** Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection** Tightly fitting safety goggles.
- Skin and body protection** No special protective equipment required.
- 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** When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<p><b>Appearance</b> No information available.</p> <p><b>Odor Threshold</b> No information available</p> <p><b>pH</b> No information available</p> <p><b>Flash point</b> No information available</p> <p><b>Decomposition temperature</b> No information available</p> <p><b>Melting point/range</b> No information available</p> <p><b>Explosion limits</b> No information available</p> <p><b>Specific Gravity</b> No data available</p> <p><b>Evaporation rate</b> No information available</p> <p><b>Vapor density</b> No data available</p>	<p><b>Odor</b> No information available.</p> <p><b>Physical State @20°C</b> No information available</p> <p><b>Autoignition temperature</b> No information available</p> <p><b>Boiling point/boiling range</b> No information available</p> <p><b>Flammability Limits in Air</b> No information available</p> <p><b>solubility</b> No information available.</p> <p><b>Vapor Pressure @20°C (kPa)</b> No information available</p> <p><b>VOC Content(%)</b> Not applicable</p>
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## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

<b>Product Information</b>	May cause sensitization of susceptible persons.
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### Chronic toxicity

<b>Chronic toxicity</b>	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
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<b>Sensitization</b>	As a precaution the product should be treated as a sensitizer.
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<b>Target Organ Effects</b>	None known.
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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

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

## 13. DISPOSAL CONSIDERATIONS

<b>Waste disposal methods</b>	This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.
<b>Contaminated packaging</b>	Do not re-use empty containers.

## 14. TRANSPORT INFORMATION

<b><u>DOT</u></b>	Not dangerous goods
<b><u>IATA</u></b>	Not dangerous goods
<b><u>ADR</u></b>	Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<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 does not contain any substances regulated as 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
EDTA	5000 lb			X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
EDTA	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

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

**International Regulations**

**WHMIS Note:**

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

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3**

H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects H319 - Causes serious eye irritation H412 - Harmful to aquatic life with  
long lasting effects H311 - Toxic in contact with skin H331 - Toxic if inhaled H301 - Toxic if swallowed

**Hazard statements**

H317 - May cause an allergic skin reaction

**Revision Date** 16-May-2017

**Revision Note** No information available.

**Disclaimer**

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**End of MSDS**



# Safety Data Sheet

Issuing date No data available

Revision Date 16-May-2017

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** PDH E1 alpha Human Lyophilized Recombinant Protein

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Tris	77-86-1	0.1-1	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>Environmental precautions</b>	Try to prevent the material from entering drains or water courses.
<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.

#### 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Technical measures/Storage conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering measures</b>	Showers Eyewash stations Ventilation systems
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	No special protective equipment required.
<b>Skin and body protection</b>	No special protective equipment required.
<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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION**

Acute toxicity

**Product Information** Product does not present an acute toxicity hazard based on known or supplied information

Chronic toxicity

**Target Organ Effects** None known.

**12. ECOLOGICAL INFORMATION**

Ecotoxicity

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

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging** Do not re-use empty containers.

**14. TRANSPORT INFORMATION**

DOT Not dangerous goods

IATA Not dangerous goods

ADR Not dangerous goods

**15. REGULATORY INFORMATION**

U.S. Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

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**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.

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

**International Regulations**

**WHMIS Note:**

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

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H335 - May cause respiratory irritation H315 - Causes skin irritation H319 - Causes serious eye irritation

**Revision Date**

16-May-2017

**Revision Note**

No information available.

**Disclaimer**

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**End of MSDS**

# Safety Data Sheet

Issuing date No data available

Revision Date 16-May-2017

Version 3

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** 2X Cell Extraction Buffer LM

**Recommended use** For research use only

**Supplier Address** Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

**E-mail address** technical@abcam.com

**Emergency telephone** Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

Ozone	Not applicable
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### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Sodium pyrophosphate decahydrate	13472-36-1	0.1-1	Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)
Sodium fluoride	7681-49-4	<0.1	Acute Tox. 3 (H301) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) (EUH032)
Sodium orthovanadate	13721-39-6	<0.1	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water. Drink plenty of water.
<b>Notes to physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not flammable.
<b>Flash point</b>	not determined
<b>Suitable extinguishing media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Explosion Data</b>	
<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions**                      Ensure adequate ventilation.
- Environmental precautions**            Try to prevent the material from entering drains or water courses.
- 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.

**7. HANDLING AND STORAGE**

- Advice on safe handling**                Handle in accordance with good industrial hygiene and safety practice.
- Technical measures/Storage conditions**    Keep containers tightly closed in a dry, cool and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium fluoride 7681-49-4	TWA: 2.5 mg/m <sup>3</sup> F	TWA: 2.5 mg/m <sup>3</sup> F (vacated) TWA: 2.5 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> F TWA: 2.5 mg/m <sup>3</sup> F
Sodium orthovanadate 13721-39-6			Ceiling: 0.05 mg/m <sup>3</sup> V dust and fume 15 min

*NIOSH IDLH: Immediately Dangerous to Life or Health*

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

**Engineering measures**                      Showers  
Eyewash stations  
Ventilation systems

**Personal protective equipment**

- Eye/face protection**                      No special protective equipment required.
- Skin and body protection**                No special protective equipment required.
- 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.



**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	No information available.	<b>Odor</b>	No information available.
<b>Odor Threshold</b>	No information available	<b>Physical State @20°C</b>	No information available
<b>pH</b>	No information available	<b>Autoignition temperature</b>	No information available
<b>Flash point</b>	No information available	<b>Boiling point/boiling range</b>	No information available
<b>Decomposition temperature</b>	No information available	<b>Flammability Limits in Air</b>	No information available
<b>Melting point/range</b>	No information available	<b>solubility</b>	No information available.
<b>Explosion limits</b>	No information available	<b>Vapor Pressure @20°C (kPa)</b>	No information available
<b>Specific Gravity</b>	No data available	<b>VOC Content(%)</b>	Not applicable
<b>Evaporation rate</b>	No information available		
<b>Vapor density</b>	No data available		

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Incompatible products</b>	None known based on information supplied.
<b>Conditions to avoid</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Product Information**                      Product does not present an acute toxicity hazard based on known or supplied information

**Chronic toxicity**

**carcinogenicity**                              This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium fluoride		Group 3		

**Target Organ Effects**                      None known.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

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

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium fluoride	272: 96 h Pseudokirchneriella subcapitata mg/L EC50 850: 72 h Desmodesmus subspicatus mg/L EC50 static	530: 96 h Lepomis macrochirus mg/L LC50 830: 96 h Lepomis macrochirus mg/L LC50 semi-static 38-68: 96 h Oncorhynchus mykiss mg/L LC50 static 180: 96 h Pimephales promelas mg/L LC50 semi-static		338: 48 h Daphnia magna mg/L EC50 98: 48 h Daphnia magna mg/L EC50 Static

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

**Contaminated packaging**

Do not re-use empty containers.

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	Toxic

**14. TRANSPORT INFORMATION**

**DOT**

Not dangerous goods

**IATA**

Not dangerous goods

**ADR**

Not dangerous goods

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

**Clean Water Act**

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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium fluoride	1000 lb			X

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium fluoride	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

**U.S. State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

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

**International Regulations**

**WHMIS Note:**

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

**16. OTHER INFORMATION**

**Full text of H-Statements referred to under sections 2 and 3**

H301 - Toxic if swallowed H319 - Causes serious eye irritation H315 - Causes skin irritation H335 - May cause respiratory irritation  
 H302 - Harmful if swallowed H312 - Harmful in contact with skin

**Revision Date** 16-May-2017  
**Revision Note** No information available.

**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 MSDS**