**Kit Summary**

**Product Code(s)**  AB216945  
**Product name** Human Agrin ELISA Kit

### 10X Human Agrin Capture Antibody

**TMB Substrate**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (67/548)</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>TMB</td>
<td>259-364-6</td>
<td>54827-17-7</td>
<td>0.05</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>231-765-0</td>
<td>7722-84-1</td>
<td>0.010</td>
<td>Xn; R20/22</td>
<td>Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Corr. 1A (H314) Eye Dam. 1 (H318)</td>
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</tr>
</tbody>
</table>

**Stop Solution**

<table>
<thead>
<tr>
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<th>CAS-No</th>
<th>Weight %</th>
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<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
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</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>231-633-2</td>
<td>7664-38-2</td>
<td>4.9</td>
<td>C; R34</td>
<td>Skin Corr. 1B (H314)</td>
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**Sample Diluent NS**

<table>
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<tr>
<th>Chemical Name</th>
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<th>CAS-No</th>
<th>Weight %</th>
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<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA disodium salt</td>
<td>-</td>
<td>6381-92-6</td>
<td>0.15</td>
<td>Xn; R22 Xn; R21 Xi; R38 Xi; R36 Xn; R20 Xi; R37 R52-53</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Chronic 3 (H412)</td>
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</table>
### 10X Wash Buffer PT

<table>
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<th>CAS-No</th>
<th>Weight %</th>
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<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin</td>
<td>-</td>
<td>55965-84-9</td>
<td>0.05</td>
<td>T; R23/24/25 C; R34 R43 N; R50-53</td>
<td>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)</td>
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</table>

### 5X Cell Extraction Buffer PTR

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
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<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triton-X-100</td>
<td>-</td>
<td>9002-93-1</td>
<td>1</td>
<td>Xn; R22 R41 N; R51/53</td>
<td>Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)</td>
<td>no data available</td>
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<tr>
<td>Sodium pyrophosphate decahydrate</td>
<td>-</td>
<td>13472-36-1</td>
<td>0.56</td>
<td>Xi; R36/37/38</td>
<td>Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)</td>
<td>no data available</td>
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<tr>
<td>Sodium fluoride</td>
<td>231-667-8</td>
<td>7681-49-4</td>
<td>0.21</td>
<td>T; R25 Xi; R36/38 R32</td>
<td>Acute Tox. 3 (H301) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) (EUH032)</td>
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<tr>
<td>Sodium orthovanadate</td>
<td>237-287-9</td>
<td>13721-39-6</td>
<td>0.18</td>
<td>Xn; R20/21/22</td>
<td>Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)</td>
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</tr>
<tr>
<td>Chemical Name</td>
<td>EC-No</td>
<td>CAS-No</td>
<td>Weight %</td>
<td>Classification (67/548)</td>
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<tr>
<td>Proclin</td>
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<td>55965-84-9</td>
<td>0.05</td>
<td>T; R23/24/25 C; R34 R43 R50-53</td>
<td>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)</td>
<td>no data available</td>
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<tr>
<td>Antibody Diluent 4BI</td>
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<tr>
<td>Chemical Name</td>
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<td>Weight %</td>
<td>Classification (67/548)</td>
<td>Classification (Reg. 1272/2008)</td>
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<tr>
<td>EDTA disodium salt</td>
<td>-</td>
<td>6381-92-6</td>
<td>0.15</td>
<td>Xn;R22 Xn;R21 Xi;R38 Xi;R36 Xn;R20 Xi;R37 R52-53</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Chronic 3 (H412)</td>
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<tr>
<td>Proclin</td>
<td>-</td>
<td>55965-84-9</td>
<td>0.05</td>
<td>T; R23/24/25 C; R34 R43 R50-53</td>
<td>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)</td>
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<tr>
<td>50X Cell Extraction Enhancer Solution</td>
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<td>REACH Registration Number</td>
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<tr>
<td>SDS</td>
<td>205-788-1</td>
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<td>2.5</td>
<td>Xn;R36/37/38 Xn;R21/22 F;R11</td>
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<tr>
<td>Chemical Name</td>
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<td>CAS-No</td>
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<td>Xi; R38</td>
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<td>Xi; R36</td>
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<td>Xi; R37</td>
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<td>R52-53</td>
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<td>Aquatic Chronic 1 (H410)</td>
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**Human Agrin Lyophilized Recombinant Protein**

<table>
<thead>
<tr>
<th>Chemical Name</th>
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<th>CAS-No</th>
<th>Weight %</th>
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<td>EDTA disodium salt</td>
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<td>Xn; R22</td>
<td>STOT SE 3 (H335)</td>
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<td>Xn; R21</td>
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<td>Xi; R38</td>
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<td>Xn; R20</td>
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<td>Xi; R37</td>
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<td><strong>TRANSPORT INFORMATION</strong></td>
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<tr>
<td><strong>DOT</strong></td>
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<td><strong>IATA</strong></td>
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<td><strong>ADR</strong></td>
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</table>

**GHS / CLP -  GHS - Classification**

![GHS symbol]

**2.3 Other information**

No information available

**TRANSPORT INFORMATION**
### 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>TMB Substrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended use</td>
<td>For research use only</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Ozone</th>
<th>Not applicable</th>
</tr>
</thead>
</table>

**GHS Label elements, including precautionary statements**

Not dangerous

**Other information**

No information available
3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
</table>
| 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

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water. Drink plenty of water.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.
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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm TWA: 1.4 mg/m³</td>
<td>IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m³</td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td>(vacated) TWA: 1 ppm (vacated) TWA: 1.4 mg/m³</td>
<td>(vacated)</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
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<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>pH</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Melting point/range</td>
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<tr>
<td>Explosion limits</td>
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<td>Specific Gravity</td>
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<tr>
<td>Evaporation rate</td>
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<td>VOC Content(%)</td>
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<tr>
<td>Odor</td>
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<tr>
<td>Physical State @20°C</td>
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<td>Autoignition temperature</td>
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<td>Boiling point/boiling range</td>
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<td>Flammability Limits in Air</td>
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</table>

10. STABILITY AND REACTIVITY

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<th>Condition</th>
<th>Value</th>
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<tbody>
<tr>
<td>Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Incompatible products</td>
<td>None known based on information supplied.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known based on information supplied.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>None known based on information supplied.</td>
</tr>
<tr>
<td>Hazardous polymerization</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Product does not present an acute toxicity hazard based on known or supplied information.</td>
</tr>
<tr>
<td>Chronic toxicity</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>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)</td>
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<tr>
<td>Target Organ Effects</td>
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<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
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<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>801 mg/kg (Rat)</td>
<td>4060 mg/kg (Rat) 2000 mg/kg (Rabbit)</td>
<td>2 mg/L (Rat) 4 h</td>
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<table>
<thead>
<tr>
<th>Chemical Name</th>
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<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
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<td>Group 3</td>
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Page 9 / 61
12. ECOLOGICAL INFORMATION

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>2.5: 72 h Chlorella vulgaris mg/L EC50</td>
<td>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</td>
<td>7.7: 24 h Daphnia magna mg/L EC50 18 - 32: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>Toxic Corrosive Ignitable Reactive</td>
</tr>
</tbody>
</table>

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 3T3 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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td></td>
<td>1000 lb</td>
<td></td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>A3</td>
<td>Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 2 ppm Mexico: STEL 3 mg/m³</td>
</tr>
</tbody>
</table>

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
H302 - Harmful if swallowed H332 - Harmful if inhaled H314 - Causes severe skin burns and eye damage H318 - Causes serious eye damage

Revision Date 06-Dec-2016
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

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 |

GHS Label elements, including precautionary statements

Not dangerous

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>7664-38-2</td>
<td>1-5</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water. Drink plenty of water.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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.

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>STEL: 3 mg/m³</td>
<td>TWA: 1 mg/m³</td>
<td>IDLH: 1000 mg/m³</td>
</tr>
<tr>
<td>7664-38-2</td>
<td>(vacated) TWA: 1 mg/m³</td>
<td>(vacated) STEL: 3 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
</tbody>
</table>

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

Appearance
No information available.

Odor Threshold
No information available

pH
No information available

Flash point
No information available

Decomposition temperature
No information available

Melting point/range
No information available

Explosion limits
No information available

Specific Gravity
No data available

Evaporation rate
No information available

VOC Content(%) not applicable

Odor
No information available.

Physical State @20°C
No information available

Autoignition temperature
No information available

Boiling point/boiling range
No information available

Flammability Limits in Air
No information available

Solubility
No information available

Vapor density
No data available

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
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
Eyes. Respiratory system. Skin.

12. ECOLOGICAL INFORMATION

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>3 - 3.5: 96 h Gambusia affinis mg/L LC50</td>
<td>4.6: 12 h Daphnia magna mg/L EC50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>Corrosive</td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>5000 lb</td>
<td>RQ 5000 lb final RQ RQ 2270 kg</td>
<td></td>
</tr>
</tbody>
</table>

**U.S. State Regulations**

**California Proposition 65**  
This product does not contain any Proposition 65 chemicals.

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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**International Regulations**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td></td>
<td>Mexico: TWA 1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 3 mg/m³</td>
</tr>
</tbody>
</table>

**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**  06-Dec-2016  
**Revision Note**  No information available.

**Disclaimer**

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End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Sample Diluent NS

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

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2 Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
### Precautionary Statements - EU (§28, 1272/2008)

- **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
- **P264** - Wash face, hands and any exposed skin thoroughly after handling
- **P305 + P351 + P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- **P260** - Do not breathe dust/fume/gas/mist/vapors/spray
- **P301 + P330 + P331** - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- **P303 + P361 + P353** - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
- **P304 + P340** - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
- **P310** - Immediately call a POISON CENTER or doctor/ physician
- **P405** - Store locked up

### Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA disodium salt</td>
<td>6381-92-6</td>
<td>0.1-1</td>
<td>STOT SE 3 (H335)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H302)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H312)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H332)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 (H412)</td>
</tr>
<tr>
<td>Proclin</td>
<td>55965-84-9</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1 (H317)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H301)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H311)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H331)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

**General advice**
Immediate medical attention is required. If symptoms persist, call a physician.

**Eye contact**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

**Skin contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

**Inhalation**
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

**Ingestion**
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

**Notes to physician**
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

**Flammable properties**
Not flammable.

**Flash point**
not determined

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

**Explosion Data**

| Sensitivity to Mechanical Impact | none. |
| Sensitivity to Static Discharge   | none. |

**Specific hazards arising from the chemical**
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.

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

<table>
<thead>
<tr>
<th>Eye/face protection</th>
<th>Tightly fitting safety goggles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin and body protection</td>
<td>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.</td>
</tr>
<tr>
<td>Respiratory protection</td>
<td>No special protective equipment required.</td>
</tr>
</tbody>
</table>

Hygiene measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

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

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and / or respiratory tract. May cause sensitization of susceptible persons.

Inhalation
Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact
Causes burns Corrosive to eyes May cause irritation

Skin contact
Corrosive Causes burns May cause irritation

Ingestion
Causes burns Ingestion may cause irritation to mucous membranes

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>yes/no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
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
1. PRODUCT AND COMPANY IDENTIFICATION

Product name 10X Wash Buffer PT
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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
Precautionary Statements - EU (§28, 1272/2008)
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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P405 - Store locked up

Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin</td>
<td>55965-84-9</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1 (H317)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H301)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H311)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H331)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

General advice
Immediate medical attention is required. If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

Notes to physician
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
- Sensitivity to Static Discharge: none.

Specific hazards arising from the chemical
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.

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.
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
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.

Respiratory protection
No special protective equipment required.

Hygiene measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
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<tr>
<td>Autoignition temperature</td>
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<td>Boiling point/boiling range</td>
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</tr>
<tr>
<td>Flammability Limits in Air</td>
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</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and/or respiratory tract. May cause sensitization of susceptible persons.

Inhalation
Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact
Causes burns Corrosive to eyes May cause irritation

Skin contact
Corrosive Causes burns May cause irritation

Ingestion
Causes burns Ingestion may cause irritation to mucous membranes

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.

California Hazardous Waste Codes
561

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 3T3 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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes or No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Hazard statements

- H314 - Causes severe skin burns and eye damage
- H319 - Causes serious eye irritation
- H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
Revision Note No information available.

Disclaimer
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name 5X Cell Extraction Buffer PTR
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

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2 Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
Precautionary Statements - EU (§28, 1272/2008)
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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P311 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P405 - Store locked up

Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triton-X-100</td>
<td>9002-93-1</td>
<td>1-5</td>
<td>Eye Dam. 1 (H318) Acute Tox. 4 (H302) Aquatic Chronic 2 (H411)</td>
</tr>
<tr>
<td>Sodium pyrophosphate decahydrate</td>
<td>13472-36-1</td>
<td>0.1-1</td>
<td>Eye Irrit. 2 (H319) STOT SE 3 (H335) Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td>Sodium fluoride</td>
<td>7681-49-4</td>
<td>0.1-1</td>
<td>Acute Tox. 3 (H301) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) (EUH032)</td>
</tr>
<tr>
<td>Sodium orthovanadate</td>
<td>13721-39-6</td>
<td>0.1-1</td>
<td>Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)</td>
</tr>
<tr>
<td>Proclin</td>
<td>55965-84-9</td>
<td>&lt;0.1</td>
<td>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)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

General advice
Immediate medical attention is required. If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

Notes to physician
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Static Discharge: none.

Specific hazards arising from the chemical
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

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. Dam up.

7. HANDLING AND STORAGE
Advice on safe handling
Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

Technical measures/Storage conditions

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride 7681-49-4</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>IDLH: 250 mg/m³ F</td>
</tr>
<tr>
<td></td>
<td>(vacated)</td>
<td>(vacated)</td>
<td>TWA: 2.5 mg/m³ F</td>
</tr>
<tr>
<td>Sodium orthovanadate 13721-39-6</td>
<td></td>
<td>Ceiling: 0.05 mg/m³ V dust and fume 15 min</td>
<td></td>
</tr>
</tbody>
</table>

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
Tightly fitting safety goggles. Face-shield.

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. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
No information available.

Odor Threshold
No information available

pH
No information available

Flash point
No information available

Decomposition temperature
No information available

Melting point/range
No information available

Explosion limits
No information available

Specific Gravity
no data available

Evaporation rate
No information available

VOC Content(%)
not applicable

Odor
No information available.

Physical State @20°C
No information available

Autoignition temperature
No information available

Boiling point/boiling range
No information available

Flammability Limits in Air
No information available

solubility
No information available.

Vapor density
no data available
10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and/or respiratory tract. May cause sensitization of susceptible persons.

Inhalation
Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact
Causes burns Corrosive to eyes May cause irritation

Skin contact
Corrosive Causes burns May cause irritation

Ingestion
Causes burns Ingestion may cause irritation to mucous membranes

Chronic toxicity

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

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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td></td>
<td>Group 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>272: 96 h Pseudokirchneriella subcapitata mg/L EC50 850: 72 h Desmodesmus subspicatus mg/L EC50 static</td>
<td>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</td>
<td>338: 48 h Daphnia magna mg/L EC50 98: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>Toxic</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>1000 lb</td>
<td></td>
<td>RQ 1000 lb final RQ RQ 454 kg final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium fluoride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H318 - Causes serious eye damage
H302 - Harmful if swallowed
H411 - Toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
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
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Antibody Diluent 4BI
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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
Precautionary Statements - EU (§28, 1272/2008)
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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P405 - Store locked up

Other information
No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
</table>
| EDTA disodium salt  | 6381-92-6 | 0.1-1    | STOT SE 3 (H335)
|                     |           |          | Skin Irrit. 2 (H315)                                               |
|                     |           |          | Eye Irrit. 2 (H319)                                                |
|                     |           |          | Acute Tox. 4 (H302)                                                |
|                     |           |          | Acute Tox. 4 (H312)                                                |
|                     |           |          | Acute Tox. 4 (H332)                                                |
|                     |           |          | Aquatic Chronic 3 (H412)                                           |
| 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

General advice
Immediate medical attention is required. If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

Notes to physician
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Mechanical Impact
none.

Sensitivity to Static Discharge
none.

Specific hazards arising from the chemical
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.

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

Appearance
No information available.

Odor Threshold
No information available

pH
No information available

Flash point
No information available

Decomposition temperature
No information available

Melting point/range
No information available

Hazardous decomposition products
None known based on information supplied.

Explosion limits
No information available

Specific Gravity
No data available

Evaporation rate
No information available

VOC Content(%)
Not applicable

Odor
No information available.

Physical State @20°C
No information available

Autoignition temperature
No information available

Boiling point/boiling range
No information available

Flammability Limits in Air
No information available

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity
Product Information  Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and/or respiratory tract. May cause sensitization of susceptible persons.

Inhalation  Corrosive by inhalation Causes burns May cause irritation of respiratory tract.

Eye contact  Causes burns Corrosive to eyes May cause irritation

Skin contact  Corrosive Causes burns May cause irritation

Ingestion  Causes burns Ingestion may cause irritation to mucous membranes

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
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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
Revision Note No information available.

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End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name
50X Cell Extraction Enhancer 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

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/iritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2 Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
**Precautionary Statements - EU (§28, 1272/2008)**

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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P405 - Store locked up

**Other information**

No information available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS</td>
<td>151-21-3</td>
<td>1-5</td>
<td>STOT SE 3 (H335)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H302)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H312)</td>
</tr>
<tr>
<td>Proclin</td>
<td>55965-84-9</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1 (H317)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H301)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H311)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H331)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

General advice
Immediate medical attention is required. If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

Notes to physician
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
Not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Mechanical Impact
none.

Sensitivity to Static Discharge
none.

Specific hazards arising from the chemical
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.

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.
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
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<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
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<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information  Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and / or respiratory tract. May cause sensitization of susceptible persons.

Inhalation  Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact  Causes burns Corrosive to eyes May cause irritation

Skin contact  Corrosive Causes burns May cause irritation

Ingestion  Causes burns Ingestion may cause irritation to mucous membranes

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS</td>
<td>1.6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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 H302 - Harmful if swallowed H312 - Harmful in contact with skin H314 - Causes severe skin burns and eye damage H317 - May cause an allergic skin reaction H301 - Toxic if swallowed H311 - Toxic in contact with skin H331 - Toxic if inhaled H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
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

1. PRODUCT AND COMPANY IDENTIFICATION

Product name
10X Human Agrin Capture Antibody

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

<table>
<thead>
<tr>
<th>Hazard statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2 Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
Precautionary Statements - EU (§28, 1272/2008)
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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P405 - Store locked up

Other information
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA disodium salt</td>
<td>6381-92-6</td>
<td>0.1-1</td>
<td>STOT SE 3 (H335)  Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)  Acute Tox. 4 (H302)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H312)  Acute Tox. 4 (H332)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 3 (H412)</td>
</tr>
<tr>
<td>Proclin</td>
<td>55965-84-9</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)  Skin Sens. 1 (H317)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H301)  Acute Tox. 3 (H311)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (H331)  Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

**General advice**
Immediate medical attention is required. If symptoms persist, call a physician.

**Eye contact**
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

**Skin contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

**Inhalation**
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

**Ingestion**
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

**Notes to physician**
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

**Flammable properties**
Not flammable.

**Flash point**
not determined

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

**Explosion Data**

- **Sensitivity to Mechanical Impact**
  none.
- **Sensitivity to Static Discharge**
  none.

**Specific hazards arising from the chemical**
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.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosions limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>not applicable</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability

Stable under recommended storage conditions.

Incompatible products

None known based on information supplied.

Conditions to avoid

None known based on information supplied.

Hazardous decomposition products

None known based on information supplied.

Hazardous polymerization

Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information  Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and/or respiratory tract. May cause sensitization of susceptible persons.

Inhalation  Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact  Causes burns Corrosive to eyes May cause irritation

Skin contact  Corrosive Causes burns May cause irritation

Ingestion  Causes burns Ingestion may cause irritation to mucous membranes

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
AB216945-CP287124 - 10X Human Agrin Capture Antibody

Revision Date 06-Dec-2016

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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
H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

Revision Date 06-Dec-2016
Revision Note No information available.

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End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name
Human Agrin 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

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2 Category 1</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Ozone</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction
Precautionary Statements - EU (§28, 1272/2008)
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
P264 - Wash face, hands and any exposed skin thoroughly after handling
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P405 - Store locked up

Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
</table>
| EDTA disodium salt| 6381-92-6| 0.1-1    | STOT SE 3 (H335)  
|                   |         |          | Skin Irrit. 2 (H315)  
|                   |         |          | Eye Irrit. 2 (H319)  
|                   |         |          | Acute Tox. 4 (H302)  
|                   |         |          | Acute Tox. 4 (H312)  
|                   |         |          | Acute Tox. 4 (H332)  
|                   |         |          | Aquatic Chronic 3 (H412)  |
| 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

General advice
Immediate medical attention is required. If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. If symptoms persist, call a physician. May cause an allergic skin reaction.

Inhalation
Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required. If symptoms persist, call a physician.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required. If symptoms persist, call a physician.

Notes to physician
May cause sensitization of susceptible persons. Treat symptomatically.

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

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Mechanical Impact
none.

Sensitivity to Static Discharge
none.

Specific hazards arising from the chemical
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.

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.
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

Appearance
No information available.

Odor Threshold
No information available

pH
No information available

Flash point
No information available

Decomposition temperature
No information available

Melting point/range
No information available

Explosion limits
No information available

Specific Gravity
no data available

Evaporation rate
No information available

VOC Content(%) not applicable

Odor
No information available.

Physical State @20°C
No information available

Autoignition temperature
No information available

Boiling point/boiling range
No information available

Flammability Limits in Air
No information available

solubility
No information available.

Vapor density
no data available

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information Corrosive to skin, eyes and/or respiratory tract. Irritating to skin, eyes and / or respiratory tract. May cause sensitization of susceptible persons.

Inhalation Corrosive by inhalation Causes burns May cause irritation of respiratory tract

Eye contact Causes burns Corrosive to eyes May cause irritation

Skin contact Corrosive Causes burns May cause irritation

Ingestion Causes burns Ingestion may cause irritation to mucous membranes

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin</td>
<td>53 mg/kg ( Rat )</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

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  H301 - Toxic if swallowed  H311 - Toxic in contact with skin  H331 - Toxic if inhaled  H400 - Very toxic to aquatic life  H410 - Very toxic to aquatic life with long lasting effects

Hazard statements
H314 - Causes severe skin burns and eye damage
H319 - Causes serious eye irritation
H317 - May cause an allergic skin reaction

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Disclaimer
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End of MSDS