### Kit Summary

**Product Code(s)**  
AB133063

**Product name**  
anti-HSP70 IgG/A/M Human ELISA Kit

#### 20X Wash Buffer Concentrate

<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>Tris HCl</td>
<td>214-684-5</td>
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<td>12.6</td>
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<td>Tris</td>
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<td>77-86-1</td>
<td>2.2</td>
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<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
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<tr>
<td>Benzalkonium chloride</td>
<td>-</td>
<td>8001-54-5</td>
<td>0.007</td>
<td>C; R34; R42/43</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
<td>no data available</td>
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<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>247-500-7</td>
<td>26172-55-4</td>
<td>0.002</td>
<td>Xn; R20/22</td>
<td>Skin Corr. 1B (H314) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Acute 1 (H400)</td>
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<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>220-239-6</td>
<td>2682-20-4</td>
<td>0.001</td>
<td>T; R20/21/22; C; R34; R43; N; R50/53</td>
<td>Skin Corr. 1B (H314) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)</td>
<td>no data available</td>
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</table>

#### TMB Substrate

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
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<tr>
<td>TMB</td>
<td>259-364-6</td>
<td>54827-17-7</td>
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#### Stop Solution 2

<table>
<thead>
<tr>
<th>Chemical Name</th>
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<th>REACH Registration Number</th>
</tr>
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<tbody>
<tr>
<td>Chemical Name</td>
<td>EC-No</td>
<td>CAS-No</td>
<td>Weight %</td>
<td>Classification (67/548)</td>
<td>Classification (Reg. 1272/2008)</td>
<td>REACH Registration Number</td>
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<td>Hydrochloric acid</td>
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<td>STOT SE 3 (H335); Skin Corr. 1B (H314)</td>
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</tr>
</tbody>
</table>

### Anti-Human Hsp70 Standard

<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>Tris HCl</td>
<td>214-684-5</td>
<td>1185-53-1</td>
<td>1.27</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
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</tr>
<tr>
<td>Tris</td>
<td>201-064-4</td>
<td>77-86-1</td>
<td>0.236</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
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<tr>
<td>Triton-X-100</td>
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<td>9002-93-1</td>
<td>0.09</td>
<td>Xn; R22; R41; R43; N; R51/53</td>
<td>Eye Dam. 1 (H318); Acute Tox. 4 (H302); Aquatic Chronic 2 (H411)</td>
<td></td>
</tr>
<tr>
<td>Benzalkonium chloride</td>
<td>-</td>
<td>8001-54-5</td>
<td>0.007</td>
<td>C; R34; R42/43; N; R50</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
<td></td>
</tr>
<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>247-500-7</td>
<td>26172-55-4</td>
<td>0.002</td>
<td>Xn; R20/22; C; R34; R42; R43; N; R50</td>
<td>Skin Corr. 1B (H314); Resp. Sens. 1 (H334); Skin Sens. 1 (H317); Acute Tox. 4 (H302); Acute Tox. 4 (H332); Aquatic Acute 1 (H400); Aquatic Chronic 1 (H410)</td>
<td></td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>220-239-6</td>
<td>2682-20-4</td>
<td>0.001</td>
<td>T; R20/21/22; C; R34; R43; N; R50/53</td>
<td>Skin Corr. 1B (H314); Skin Sens. 1 (H317); Aquatic Acute 1 (H400); Aquatic Chronic 1 (H410)</td>
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</table>

### Sample Diluent 2

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
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<td>1.27</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
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<tr>
<td>Tris</td>
<td>201-064-4</td>
<td>77-86-1</td>
<td>0.236</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
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<tr>
<td>Triton-X-100</td>
<td>-</td>
<td>9002-93-1</td>
<td>0.09</td>
<td>Xn; R22; R41; N; R51/53</td>
<td>Eye Dam. 1 (H318); Acute Tox. 4 (H302); Aquatic Chronic 2 (H411)</td>
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<tr>
<td>Benzalkonium chloride</td>
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<td>0.007</td>
<td>C; R34; R42/43; N; R50</td>
<td>STOT SE 3 (H335); Skin Irrit. 2 (H315); Eye Irrit. 2 (H319)</td>
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<tr>
<td>Chemical Name</td>
<td>EC-No</td>
<td>CAS-No</td>
<td>Weight %</td>
<td>Classification (67/548)</td>
<td>Classification (Reg. 1272/2008)</td>
<td>REACH Registration Number</td>
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<td>Tris HCl</td>
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<td>1185-53-1</td>
<td>1.27</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335) Skin Irrit 2 (H315) Eye Irrit 2 (H319)</td>
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<tr>
<td>Tris</td>
<td>201-064-4</td>
<td>77-86-1</td>
<td>0.236</td>
<td>Xi; R36/37/38</td>
<td>STOT SE 3 (H335) Skin Irrit 2 (H315) Eye Irrit 2 (H319)</td>
<td></td>
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</table>

**GHS / CLP - GHS - Classification**

**Signal Word**
Warning

**Hazard statements**
H315 - Causes skin irritation
H319 - Causes serious eye irritation

**Precautionary Statements - EU (§28, 1272/2008)**
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332 + P313 - If skin irritation occurs: Get medical advice/ attention
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/ eye protection/ face protection
P362 - Take off contaminated clothing and wash before reuse

**2.3 Other information**
No information available
<table>
<thead>
<tr>
<th>TRANSPORT INFORMATION</th>
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<tbody>
<tr>
<td>DOT</td>
<td>Not dangerous goods</td>
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<tr>
<td>IATA</td>
<td>Not dangerous goods</td>
</tr>
<tr>
<td>ADR</td>
<td>Not dangerous goods</td>
</tr>
</tbody>
</table>
1. PRODUCT AND COMPANY IDENTIFICATION

Product name
20X Wash Buffer Concentrate

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

GHS Label elements, including precautionary statements

Signal Word
Warning

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P332 + P331 - If skin irritation occurs: Get medical advice/attention
P337 + P331 - If eye irritation persists: Get medical advice/attention
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection
P362 - Take off contaminated clothing and wash before reuse
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>
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<tbody>
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<tr>
<td>Tris</td>
<td>77-86-1</td>
<td>1-5</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>Benzalkonium chloride</td>
<td>8001-54-5</td>
<td>&lt;0.1</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>26172-55-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>2682-20-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314) Skin Sens. 1 (H317) 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
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. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation
Move to fresh air. If symptoms persist, call a physician.

Ingestion
Rinse mouth. If symptoms persist, call a physician.

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.

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>
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<th>Property</th>
<th>Value</th>
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<td>pH</td>
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<td>Flash point</td>
<td>No information available</td>
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<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
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<tr>
<td>Melting point/range</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
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<tr>
<td>Specific Gravity</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>VOC Content(%)</td>
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<tr>
<td>Odor</td>
<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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</tr>
<tr>
<td>Flammability Limits in Air</td>
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</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: Irritating to skin, eyes and/or respiratory tract.

Inhalation: May cause irritation of respiratory tract

Eye contact: May cause irritation

Skin contact: May cause irritation

Ingestion: 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>
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</thead>
<tbody>
<tr>
<td>Tris</td>
<td>LD50 5900 mg/kg (Rat)</td>
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<td></td>
</tr>
<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>LD50 481 mg/kg (Rat)</td>
<td></td>
<td>LC50 1.25 mg/l (Rat, 4 h)</td>
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</tbody>
</table>

Chronic toxicity

Target Organ Effects: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

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

Contaminated packaging
Do not re-use empty containers.

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

SARA 311/312 Hazard Categories

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

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

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

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

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Revision Date 11-May-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: TMB Substrate

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

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>
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<tbody>
<tr>
<td>TMB</td>
<td>54827-17-7</td>
<td>1-5</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
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For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

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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.

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Protective equipment and precautions for firefighters
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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>
</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>
<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 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

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

Chronic toxicity

Target Organ Effects

None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

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

Contaminated packaging

Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT

Not dangerous goods

IATA

Not dangerous goods

ADR

Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

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

SARA 311/312 Hazard Categories

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

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

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                  Anti-Human Hsp70 Standard
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>Tris HCl</td>
<td>1185-53-1</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>Tris</td>
<td>77-86-1</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>
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<tr>
<td>Benzalkonium chloride</td>
<td>8001-54-5</td>
<td>&lt;0.1</td>
<td>STOT SE 3 (H335)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
</tr>
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<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>26172-55-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Resp. Sens. 1 (H334)</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. 4 (H302)</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>2682-20-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314)</td>
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<td></td>
<td></td>
<td>Skin Sens. 1 (H317)</td>
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<tr>
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<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

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.
### 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.

**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

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<table>
<thead>
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<th>Property</th>
<th>Value</th>
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</tr>
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<td>Explosion limits</td>
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</tr>
<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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<tr>
<td>VOC Content(%)</td>
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<tr>
<td>Boiling point/boiling range</td>
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</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>
```

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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**
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>No</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

Revision Date 11-May-2016
Revision Note No information available.

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End of MSDS
### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name**  
Sample Diluent 2

**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>
</table>
| Tris HCl                              | 1185-53-1 | 1-5      | STOT SE 3 (H335)  
Skin Irrit. 2 (H315)  
Eye Irrit. 2 (H319)    |
| Tris                                  | 77-86-1  | 0.1-1    | STOT SE 3 (H335)  
Skin Irrit. 2 (H315)  
Eye Irrit. 2 (H319)    |
| Benzalkonium chloride                 | 8001-54-5 | <0.1     | STOT SE 3 (H335)  
Skin Irrit. 2 (H315)  
Eye Irrit. 2 (H319)    |
| 5-Chloro-2-methyl-3-isothiazolone     | 26172-55-4 | <0.1     | Skin Corr. 1B (H314)  
Resp. Sens. 1 (H334)  
Skin Sens. 1 (H317)  
Acute Tox. 4 (H302)  
Acute Tox. 4 (H332)  
Aquatic Acute 1 (H400) |
| 2-methyl-4-isothiazolin-3-one         | 2682-20-4 | <0.1     | Skin Corr. 1B (H314)  
Skin Sens. 1 (H317)  
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

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.
### 6. ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Protective equipment and precautions for firefighters</th>
<th>As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.</th>
</tr>
</thead>
</table>

### 7. HANDLING AND STORAGE

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

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Exposure Guidelines</th>
<th>This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.</th>
</tr>
</thead>
</table>
| Engineering measures | Showers  
Eyewash stations  
Ventilation systems |
| Personal protective equipment | No special protective equipment required.  
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
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
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ADR
Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations
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<th>Hazard Category</th>
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End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name Anti-Human HSP70-HRP Conjugate
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)
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2. HAZARDS IDENTIFICATION

GHS - Classification

| Ozone       | Not applicable |

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Other information

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<td>8001-54-5</td>
<td>&lt;0.1</td>
<td>STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>5-Chloro-2-methyl-3-isothiazolone</td>
<td>26172-55-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td>2-methyl-4-isothiazolin-3-one</td>
<td>2682-20-4</td>
<td>&lt;0.1</td>
<td>Skin Corr. 1B (H314) Skin Sens. 1 (H317) 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

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.
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.

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>
</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>
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</tr>
<tr>
<td>Explosion limits</td>
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</tr>
<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>Evaporation rate</td>
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</tr>
<tr>
<td>VOC Content(%)</td>
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</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Physical State @20°C</td>
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</tr>
<tr>
<td>Autoignition temperature</td>
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</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
Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity

Target Organ Effects
None known.

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods

15. REGULATORY INFORMATION

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

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>no</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

Revision Date 11-May-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