# Kit Summary

**Product Code(s)**
AB65355

**Product name**
cAMP Assay Kit - Direct Immunoassay

## Rabbit Anti-cAMP polyclonal Antibody

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
</table>
| Thimerosal        | 200-210-4 | 54-64-8 | 0.02     | Acute Tox. 2 (H300)  
Acute Tox. 1 (H310)  
Acute Tox. 2 (H330)  
STOT RE 2 (H373)  
Aquatic Acute 1 (H400)  
Aquatic Chronic 1 (H410) | -            |

## Acetylation Reagent A

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
</table>
| Acetic anhydride  | 203-564-8 | 108-24-7 | 100      | STOT SE 3 (H335)  
Skin Corr. 1B (H314)  
Eye Dam. 1 (H318)  
Acute Tox. 4 (H332)  
Flam Liq. 3 (H226) | -            |

## Acetylation Reagent B

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
</table>
| Triethylamine     | 204-469-4 | 121-44-8 | 100      | STOT SE 3 (H335)  
Skin Corr. 1A (H314)  
Eye Dam. 1 (H318)  
Acute Tox. 4 (H332)  
Acute Tox. 3 (H331)  
Flam Liq. 2 (H225) | -            |
### Signal Word

**Danger**

### Hazard statements

- **H311 -** Toxic in contact with skin
- **H331 -** Toxic if inhaled
- **H225 -** Highly flammable liquid and vapor
- **H302 -** Harmful if swallowed
- **H314 -** Causes severe skin burns and eye damage
- **H335 -** May cause respiratory irritation

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

- **P210 -** Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- **P260 -** Do not breathe dust/fume/gas/mist/vapors/spray
- **P264 -** Wash face, hands and any exposed skin thoroughly after handling
- **P270 -** Do not eat, drink or smoke when using this product
- **P271 -** Use only outdoors or in a well-ventilated area
- **P280 -** Wear protective gloves/ eye protection/ face protection
- **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
- **P305 + P351 + P338 -** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- **P312 -** Call a POISON CENTER or doctor/ physician if you feel unwell
- **P361 -** Remove/Take off immediately all contaminated clothing
- **P363 -** Wash contaminated clothing before reuse
- **P403 + P233 -** Store in a well-ventilated place. Keep container tightly closed
- **P405 -** Store locked up
- **P501 -** Dispose of contents/ container to an approved waste disposal plant

### 2.3 Other information

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

### TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th><strong>DOT</strong></th>
<th>Excerpted Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proper shipping name</strong></td>
<td>Chemical kit</td>
</tr>
<tr>
<td><strong>Hazard class</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>UN/ID No</strong></td>
<td>3316</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IATA</strong></th>
<th>Excerpted Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN/ID No</strong></td>
<td>3316</td>
</tr>
<tr>
<td><strong>Proper shipping name</strong></td>
<td>Chemical kit</td>
</tr>
<tr>
<td><strong>Hazard class</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ADR</strong></th>
<th>Excerpted Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proper shipping name</strong></td>
<td>Chemical kit</td>
</tr>
<tr>
<td><strong>Hazard class</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>UN/ID No</strong></td>
<td>3316</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>II</td>
</tr>
</tbody>
</table>
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Rabbit Anti-cAMP polyclonal 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

| 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>Thimerosal</td>
<td>54-64-8</td>
<td>&lt;0.1</td>
<td>Acute Tox. 2 (H300) Acute Tox. 1 (H310) Acute Tox. 2 (H330) STOT RE 2 (H373) 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.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
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>Thimerosal</td>
<td>54-64-8</td>
<td></td>
<td>IDLH: 10 mg/m$^3$ Hg Ceiling: 0.1 mg/m$^3$ Hg TWA: 0.05 mg/m$^3$ except Organo alkyls Hg vapor</td>
</tr>
</tbody>
</table>

NIOSH IDLH: Immediately Dangerous to Life or Health

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. 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
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>Vapor density</td>
<td>No data available</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/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 Pressure @20°C (kPa)</td>
<td>No information available.</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>Not applicable</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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thimerosal</td>
<td>75 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chronic toxicity

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>Thimerosal</td>
<td></td>
<td>LC50 (Static)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ictalurus punctatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Channel catfish):</td>
<td>7.5 mg/l (24 h)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oncorhynchus mykiss</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Rainbow trout):</td>
<td>21.2 mg/l (48 h)</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.

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>SARA 311/312</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>Acute Health Hazard</td>
<td>no</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
<td></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 contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thimerosal</td>
<td>54-64-8</td>
<td>Developmental</td>
</tr>
</tbody>
</table>

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>Thimerosal</td>
<td>X</td>
<td>X</td>
<td></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

H300 + H310 + H330 - Fatal if swallowed, in contact with skin or if inhaled H373 - May cause damage to organs through prolonged or repeated exposure H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects

Revision Date 14-Aug-2018
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
- Acetylating Reagent A

UN/ID No
- 3316

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 Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute inhalation toxicity - dust/mist</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
- Danger
Hazard statements
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P271 - Use only outdoors or in a well-ventilated area
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/ eye protection/ face protection
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P363 - Wash contaminated clothing before reuse
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/ container to an approved waste disposal plant
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>Acetic anhydride</td>
<td>108-24-7</td>
<td>100</td>
<td>STOT SE 3 (H335) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Flam Liq. 3 (H226)</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. Immediate medical attention is required.

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.

Skin contact  Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

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

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

Notes to physician  Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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  The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Protective equipment and precautions for firefighters  As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.
6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. 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**
Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

**Other information**
Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE

**Advice on safe handling**
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

**Technical measures/Storage conditions**
Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.
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>Acetic anhydride</td>
<td>TWA: 5 ppm</td>
<td>TWA: 5 ppm</td>
<td>IDLH: 200 ppm</td>
</tr>
<tr>
<td>108-24-7</td>
<td></td>
<td>TWA: 20 mg/m³</td>
<td>Ceiling: 5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) Ceiling: 5 ppm</td>
<td>Ceiling: 20 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**: 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. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

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 data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</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 Pressure @20°C (kPa)</td>
<td>No information available</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>100</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Conditions to avoid
Exposure to air or moisture over prolonged periods.

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

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Inhalation
Harmful by inhalation Corrosive by inhalation Causes burns

Eye contact
Causes burns Corrosive to eyes

Skin contact
Corrosive Causes burns

Ingestion
Harmful if swallowed Causes burns

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic anhydride</td>
<td>630 mg/kg (Rat)</td>
<td>4000 mg/kg (Rabbit)</td>
<td>4.2 mg/L (Rat) 4 h 1000 ppm (Rat) 4 h</td>
</tr>
</tbody>
</table>

Chronic toxicity

Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risks of irreversible effects.

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>Acetic anhydride</td>
<td>265: 48 h Leuciscus idus mg/L LC50</td>
<td>55: 24 h Daphnia magna mg/L EC50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic anhydride</td>
<td>-0.27</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

<table>
<thead>
<tr>
<th>DOT</th>
<th>Excepted Quantity</th>
<th>Proper shipping name</th>
<th>Chemical kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard class</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN/ID No</td>
<td>3316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IATA</th>
<th>Excepted Quantity</th>
<th>Proper shipping name</th>
<th>Chemical kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN/ID No</td>
<td>3316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard class</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADR</th>
<th>Excepted Quantity</th>
<th>Proper shipping name</th>
<th>Chemical kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN/ID No</td>
<td>3316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazard class</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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: yes
- Chronic Health Hazard: yes
- Fire Hazard: no
- Sudden Release of Pressure Hazard: no
- Reactive Hazard: no

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

<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>Acetic anhydride</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

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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>Acetic anhydride</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RQ 2270 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>Acetic anhydride</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>Acetic anhydride</td>
<td></td>
<td>Mexico: TWA 5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: TWA 20 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 H302 - Harmful if swallowed H332 - Harmful if inhaled H226 - Flammable liquid and vapor

**Hazard statements**
H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

**Revision Date** 14-Aug-2018
**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: Acetylating Reagent B
UN/ID No: 3316
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 Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 4</td>
<td>Acute oral toxicity</td>
</tr>
<tr>
<td>Category 3</td>
<td>Acute dermal toxicity</td>
</tr>
<tr>
<td>Category 3</td>
<td>Acute inhalation toxicity - dust/mist</td>
</tr>
<tr>
<td>Category 1A</td>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Category 1</td>
<td>Serious eye damage/eye irritation</td>
</tr>
<tr>
<td>Category 3</td>
<td>Specific target organ systemic toxicity (single exposure)</td>
</tr>
<tr>
<td>Category 2</td>
<td>Flammable liquids</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements
Signal Word
Danger

Hazard statements
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/ eye protection/ face protection
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
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P361 - Remove/Take off immediately all contaminated clothing
P363 - Wash contaminated clothing before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

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>Triethylamine</td>
<td>121-44-8</td>
<td>100</td>
<td>STOT SE 3 (H335) Skin Corr. 1A (H314) Eye Dam. 1 (H318) Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Flam Liq. 2 (H225)</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. Immediate medical attention is required.

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.

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

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

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

Notes to physician
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. 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
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

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
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.
### 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 to prevent contact with skin and eyes.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal precautions</strong></td>
<td>Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment.</td>
</tr>
<tr>
<td><strong>Environmental precautions</strong></td>
<td>Try to prevent the material from entering drains or water courses.</td>
</tr>
<tr>
<td><strong>Methods for containment</strong></td>
<td>Prevent further leakage or spillage if safe to do so.</td>
</tr>
<tr>
<td><strong>Methods for cleaning up</strong></td>
<td>Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Take up mechanically and collect in suitable container for disposal. After cleaning, flush away traces with water.</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>Refer to protective measures listed in sections 7 and 8.</td>
</tr>
</tbody>
</table>

### 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Advice on safe handling</th>
<th>Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Avoid contact with skin and eyes. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical measures/Storage conditions</td>
<td>Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place.</td>
</tr>
</tbody>
</table>
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>Triethylamine</td>
<td>STEL: 3 ppm</td>
<td>TWA: 25 ppm</td>
<td>IDLH: 200 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 1 ppm</td>
<td>TWA: 100 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 10 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 40 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 15 ppm</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 60 mg/m³</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. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

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>Vapor density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Physical State @20°C</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 data available.</td>
</tr>
<tr>
<td>Vapor Pressure @20°C (kPa)</td>
<td>No information available.</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>100</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Conditions to avoid
Exposure to air or moisture over prolonged periods.

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

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Harmful if swallowed Product is harmful by skin contact Harmful by inhalation Corrosive to skin, eyes and/or respiratory tract.

Inhalation
Harmful by inhalation Corrosive by inhalation Causes burns

Eye contact
Causes burns Corrosive to eyes

Skin contact
Harmful in contact with skin Corrosive Causes burns

Ingestion
Harmful if swallowed Causes burns

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rabbit)</th>
<th>LC50 Inhalation (Rat, 4 h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylamine</td>
<td>460 mg/kg</td>
<td>416 mg/kg (570 µl/kg)</td>
<td>1,000 ppm (4.14 mg/l)</td>
</tr>
</tbody>
</table>

Chronic toxicity

Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen Avoid repeated exposure Possible risks of irreversible effects May cause adverse liver effects

Target Organ Effects

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>Triethylamine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylamine</td>
<td>1.45</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.

US EPA Waste Number
U404

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylamine - 121-44-8</td>
<td>U404</td>
<td>Included in waste streams: K156, K157</td>
<td></td>
<td>U404</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
- Proper shipping name: Chemical kit
- Hazard class: 9
- UN/ID No: 3316
- Packing group: II

IATA
- Proper shipping name: Chemical kit
- UN/ID No: 3316
- Hazard class: 9
- Packing group: II

ADR
- Proper shipping name: Chemical kit
- Hazard class: 9
- UN/ID No: 3316
- Packing group: II

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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylamine</td>
<td>121-44-8</td>
<td>100</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
- Acute Health Hazard: yes
- Chronic Health Hazard: yes
- Fire Hazard: no
- Sudden Release of Pressure Hazard: no
- Reactive Hazard: no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).
CERCLA
This material, as supplied, 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>Triethylamine</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ RQ 2270 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>Triethylamine</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</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>Triethylamine</td>
<td></td>
<td>Mexico: TWA 25 ppm Mexico: TWA 100 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 H302 - Harmful if swallowed H335 - May cause respiratory irritation H318 - Causes serious eye damage H311 + H331 - Toxic in contact with skin or if inhaled H225 - Highly flammable liquid and vapor

Hazard statements
H311 - Toxic in contact with skin
H331 - Toxic if inhaled
H225 - Highly flammable liquid and vapor
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Revision Date 14-Aug-2018
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