# Kit Summary

**Product Code(s)** AB235945  
**Product name** 5'-Nucleotidase (CD73) Activity Assay Kit (Colorimetric)

## 5'-NT Inhibitor

<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>
| Proprietary inhibitor | -     | 9999999-99-5   | 5        | STOT RE 1 (H372)  
Skin Irrit. 2 (H315)  
Skin Sens. 1 (H317)  
Repr. 1B (H360FD)    | -                                                      |

## 5'-NT Developer I

<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>
| Proprietary Reagent | -     | 9999999-99-5   | 5        | STOT SE 3 (H335)  
Skin Irrit. 2 (H315)  
Eye Irrit. 2 (H319)  
Aquatic Acute 1 (H400) | -                                                      |

## 5'-NT Developer II

<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>
| Proprietary reagent (II) | -     | 9999999-99-5   | 5        | Skin Corr. 1B (H314)  
Eye Dam. 1 (H318)  
Aquatic Acute 1 (H400)  
Aquatic Chronic 1 (H410) | -                                                      |

## GHS / CLP - GHS - Classification

**Signal Word**  
Danger
Hazard statements
H301 - Toxic if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H331 - Toxic if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/ protective clothing/ 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
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P285 - In case of inadequate ventilation wear respiratory protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

TRANSPORT INFORMATION

DOT
Proper shipping name
Chemical kit
Hazard class
9
UN/ID No
UN3316
Packing group
III

IATA
Proper shipping name
Chemical kit
UN/ID No
UN3316
Hazard class
9
Packing group
III

ADR
Proper shipping name
Chemical kit
Hazard class
9
UN/ID No
UN3316
Packing group
III
1. PRODUCT AND COMPANY IDENTIFICATION

Product name 5'-NT Inhibitor
UN/ID No UN3288
Recommended use For research use only

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

E-mail address technical@abcam.com

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

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>GHS - Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger
Hazard statements
H301 - Toxic if swallowed
H331 - Toxic if inhaled
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/ protective clothing/ 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
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P285 - In case of inadequate ventilation wear respiratory protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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>
| Proprietary inhibitor | 9999999-99-5 | 3.7      | STOT RE 1 (H372)
|                       |              |          | Skin Irrit. 2 (H315)
|                       |              |          | Skin Sens. 1 (H317)
|                       |              |          | Repr. 1B (H360FD)              |

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.

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

Inhalation
Move to fresh air.

Ingestion
Clean mouth with water. Drink plenty of water.

Notes to physician
May cause sensitization of susceptible persons. 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.

Specific hazards arising from the chemical
Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Avoid contact with skin, eyes and clothing. Use personal protective equipment.

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
Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Advice on safe handling
Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapors or spray mist.
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 cool, well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Engineering measures
- Showers
- Eyewash stations
- Ventilation systems

Personal protective equipment

| Eye/face protection | Tightly fitting safety goggles. |
| Skin and body protection | 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>Powder</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>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**
May cause sensitization of susceptible persons

**Chronic toxicity**

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

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

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

**Reproductive toxicity**
Product is or contains a chemical which is a known or suspected reproductive hazard

**Developmental Toxicity**
Contains ingredients that have suspected developmental hazards Possible risk of harm to the unborn child May cause birth defects

**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>Proprietary inhibitor</td>
<td>EC50 - Pseudokirchneriella subcapitata (green algae) - 0.006 - 0.012 mg/l - 96h</td>
<td>NOEC - Oncorhynchus mykiss (rainbow trout) - 4.9 mg/l - 96.0 h</td>
<td></td>
<td>EC50 - Daphnia magna (Water flea) - 6.0 - 9.3 mg/l - 48 h</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**

<table>
<thead>
<tr>
<th>Proper shipping name</th>
<th>Excepted Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic solid, inorganic, n.o.s. (Proprietary inhibitor)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>UN/ID No</th>
<th>Packing group</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>UN3288</td>
<td>III</td>
</tr>
</tbody>
</table>
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 3T3 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard  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.

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
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled H315 - Causes skin irritation H317 - May cause an allergic skin reaction H360Fd - May damage fertility. Suspected of damaging the unborn child

Hazard statements
H301 - Toxic if swallowed
H331 - Toxic if inhaled
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 - Suspected of causing genetic defects
H350 - May cause cancer
H360 - May damage fertility or the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure
H410 - Very toxic to aquatic life with long lasting effects

Revision Date 22-Jun-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 5'-NT Developer I
Recommended use For research use only

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

E-mail address technical@abcam.com

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

2. HAZARDS IDENTIFICATION

GHS - Classification

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute aquatic toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word Warning

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life
Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ eye protection/ face protection
P271 - Use only outdoors or in a well-ventilated area
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
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
P332 + P313 - If skin irritation occurs: Get medical advice/ attention
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P362 - Take off contaminated clothing and wash before reuse
P391 - Collect spillage
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>Proprietary Reagent</td>
<td>9999999-99-5</td>
<td>3-7</td>
<td>STOT SE 3 (H335)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</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.

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

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Product does not present an acute toxicity hazard based on known or supplied information</td>
</tr>
<tr>
<td>Product Information</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic toxicity</td>
<td></td>
</tr>
<tr>
<td>Target Organ Effects</td>
<td>None known.</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecotoxicity</td>
<td>The environmental impact of this product has not been fully investigated.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Toxicity to algae</td>
</tr>
<tr>
<td>Proprietary Reagent</td>
<td>EC50 - Algae - 0.85 mg/l - 72 h</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Product is biodegradable. Result: 70.8 - 75.7 %.</td>
</tr>
</tbody>
</table>
### 13. DISPOSAL CONSIDERATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste disposal methods</td>
<td>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.</td>
</tr>
<tr>
<td>Contaminated packaging</td>
<td>Do not re-use empty containers.</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

- **DOT**: Not dangerous goods
- **IATA**: Not dangerous goods
- **ADR**: Not dangerous goods

### 15. REGULATORY INFORMATION

#### U.S. Federal Regulations

**SARA 313**

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

**SARA 311/312 Hazard Categories**

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

**Clean Water Act**

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

**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
H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation H400 - Very toxic to aquatic life

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H400 - Very toxic to aquatic life

Revision Date 22-Jun-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**  
5'-NT Developer II

**UN/ID No**  
UN1791

**Recommended use**  
For research use only

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

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

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

---

### 2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>GHS - Classification</th>
<th></th>
</tr>
</thead>
<tbody>
<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>Acute aquatic toxicity</td>
<td>Category 1</td>
</tr>
<tr>
<td>Chronic aquatic toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

**GHS Label elements, including precautionary statements**

![GHS Label](image)

**Signal Word**  
Danger

**Hazard statements**  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects
Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ eye protection/ face protection
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
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
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/ physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant
P273 - Avoid release to the environment
P391 - Collect spillage

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>Proprietary reagent (II)</td>
<td>9999999-99-5</td>
<td>3-7</td>
<td>Skin Corr. 1B (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1 (H318)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 (H400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

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

4. FIRST AID MEASURES

General advice
Immediate medical attention is required.

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. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.

Ingestion
Rinse mouth. Do NOT induce vomiting. Immediate medical attention is required.

Notes to physician
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.
- **Protective equipment and precautions for firefighters**: Wear self contained breathing apparatus for fire fighting if necessary.

### 6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions**: Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
- **Environmental precautions**: Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.
- **Methods for containment**: Prevent further leakage or spillage if safe to do so.
- **Methods for cleaning up**: Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

### 7. HANDLING AND STORAGE

- **Advice on safe handling**: Wear personal protective equipment. Ensure adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Exposure Guidelines**: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
- **Engineering measures**: Showers
  - Eyewash stations
  - Ventilation systems
- **Personal protective equipment**
  - Eye/face protection: Tightly fitting safety goggles. Face-shield.
  - Skin and body protection: No special protective equipment required.
  - Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
- **Hygiene measures**: When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available</td>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td>Physical State @20°C</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available</td>
<td>solubility</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td>Vapor Pressure @20°C (kPa)</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<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**: Corrosive to skin, eyes and/or respiratory tract.
  - **Inhalation**: Corrosive by inhalation Causes burns
  - **Eye contact**: Causes burns Corrosive to eyes
  - **Skin contact**: Corrosive Causes burns
  - **Ingestion**: Causes burns

- **Chronic toxicity**
  - **Chronic toxicity**: Avoid repeated exposure

12. ECOLOGICAL INFORMATION

- **Ecotoxicity**: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Dispose of in accordance with local regulations.

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

**DOT**
- Proper shipping name: Hypochlorite solution
- Hazard class: 8
- UN/ID No: UN1791
- Packing group: III

**IATA**
- Excepted Quantity
- UN/ID No: UN1791
- Proper shipping name: Hypochlorite solution
- Hazard class: 8
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End of MSDS