1. Identification

1.1. Product identifier

Product No  M0236
Product name  T4 Polynucleotide Kinase (3' phosphatase minus)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use  This product is for research and development only
Uses advised against  No information available

1.3. Details of the supplier of the safety data sheet

Supplier Address  New England BioLabs
240 County Road
Ipswich, MA 01938
USA

For further information, please contact

Company Phone Number  978-927-5054, 800-632-5227 (toll free)
Telefax  978-921-1350
E-mail address  info@neb.com

1.4. Emergency telephone number

Europe  +1 978-380-2125

2. Hazard(s) identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008  This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Hazard statements  This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]
EUH210 - Safety data sheet available on request

2.3. Other hazards

Other hazards  No information available
4. First-aid measures

4.1. Description of first aid measures

Inhalation
Remove to fresh air.

Eye contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact
Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms
No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

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

Unsuitable Extinguishing Media
No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical
No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters
Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation.
For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections

See section 8 for more information. See section 13 for more information.

7. Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk management methods [RMM]

The information required is contained in this Safety Data Sheet.

8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).
Skin and body protection
Wear suitable protective clothing.

Respiratory protection
No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
No information available.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Mild.</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
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<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td>None known</td>
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<tr>
<td>Melting point / freezing point</td>
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<tr>
<td>Boiling point / boiling range</td>
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</tr>
<tr>
<td>Flash point</td>
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<td>None known</td>
</tr>
<tr>
<td>Evaporation rate</td>
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<td>None known</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td>None known</td>
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<tr>
<td>Flammability Limit in Air</td>
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</tr>
<tr>
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<td>None known</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
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<td>None known</td>
</tr>
<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Vapor density</td>
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<td>None known</td>
</tr>
<tr>
<td>Relative density</td>
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<tr>
<td>Water solubility</td>
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<td>Solubility(ies)</td>
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</tr>
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</tr>
<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Kinematic viscosity</td>
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</tr>
<tr>
<td>Dynamic viscosity</td>
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</tr>
<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
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</table>

9.2. Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softening point</td>
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<tr>
<td>Molecular weight</td>
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<td></td>
</tr>
<tr>
<td>VOC Content (%)</td>
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<td></td>
</tr>
<tr>
<td>Liquid Density</td>
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<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and reactivity

10.1. Reactivity

Reactivity
No information available.
10.2. Chemical stability

Stability

Stable under normal conditions.

Explosion data

- Sensitivity to mechanical impact: None.
- Sensitivity to static discharge: None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Incompatible materials

None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products

None known based on information supplied.

11. Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

- Inhalation: Specific test data for the substance or mixture is not available.
- Eye contact: Specific test data for the substance or mixture is not available.
- Skin contact: Specific test data for the substance or mixture is not available.
- Ingestion: Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEmix (oral)</td>
<td>25,200.00 mg/kg</td>
</tr>
<tr>
<td>ATEmix (dermal)</td>
<td>20,000.00 mg/kg</td>
</tr>
</tbody>
</table>

Unknown acute toxicity

- 50 % of the mixture consists of ingredient(s) of unknown toxicity.
- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 50 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).
Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation  No information available.
Serious eye damage/eye irritation  No information available.
Respiratory or skin sensitization  No information available.
Germ cell mutagenicity  No information available.
Carcinogenicity  No information available.
Reproductive toxicity  No information available.
STOT - single exposure  No information available.
STOT - repeated exposure  No information available.
Aspiration hazard  No information available.

12. Ecological information

12.1. Toxicity

Ecotoxicity  .
Unknown aquatic toxicity  Contains 0 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Persistence and degradability  No information available.

12.3. Bioaccumulative potential

Bioaccumulation  There is no data for this product.

Component Information

12.4. Mobility in soil

Mobility in soil  No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment  .

12.6. Other adverse effects

Other adverse effects  No information available.

13. Disposal considerations

13.1. Waste treatment methods
Waste from residues/unused products  Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging  Do not reuse empty containers.

### 14. Transport information

**IMDG**
- **14.1 UN number**  Not regulated
- **14.2 Proper shipping name**  Not regulated
- **14.3 Transport hazard class(es)**  Not regulated
- **14.4 Packing group**  Not regulated
- **14.5 Marine pollutant**  Not applicable
- **14.6 Special Provisions**  None
- **14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**  No information available

**RID**
- **14.1 UN/ID No**  Not regulated
- **14.2 Proper shipping name**  Not regulated
- **14.3 Transport hazard class(es)**  Not regulated
- **14.4 Packing group**  Not regulated
- **14.5 Environmental hazard**  Not applicable
- **14.6 Special Provisions**  None

**ADR**
- **14.1 UN number**  Not regulated
- **14.2 Proper shipping name**  Not regulated
- **14.3 Transport hazard class(es)**  Not regulated
- **14.4 Packing group**  Not regulated
- **14.5 Environmental hazard**  Not applicable
- **14.6 Special Provisions**  None

**IATA**
- **14.1 UN number**  Not regulated
- **14.2 Proper shipping name**  Not regulated
- **14.3 Transport hazard class(es)**  Not regulated
- **14.4 Packing group**  Not regulated
- **14.5 Environmental hazard**  Not applicable
- **14.6 Special Provisions**  None

### 15. Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorizations and/or restrictions on use:**
This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)
Persistent Organic Pollutants
Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories
TSCA Contact supplier for inventory compliance status
DSL/NDSL Contact supplier for inventory compliance status
EINECS/ELINCS Contact supplier for inventory compliance status
ENCS Contact supplier for inventory compliance status
IECSC Contact supplier for inventory compliance status
KECL Contact supplier for inventory compliance status
PICCS Contact supplier for inventory compliance status
AICS Contact supplier for inventory compliance status

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment
Chemical Safety Report No information available

16. Other information
Key or legend to abbreviations and acronyms used in the safety data sheet

Legend
SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
Ceiling Maximum limit value * Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Revision date 25-Nov-2019

Prepared by Environmental, Health and Safety
978-927-5054

Revision note SDS is valid 3 years from revision date. Contact info@neb.com for latest revision.

This safety data sheet complies with the requirements of:

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End of Safety Data Sheet