

# Safety Data Sheet



Revision Date 2021-02-06

Revision Number 5

## 1. Identification

### Product identifier

**Product Name** T4 Polynucleotide Kinase

### Other means of identification

**Product Code** SD2283

**Synonyms** No information available

### Recommended use of the chemical and restrictions on use

**Identified uses** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier

USA:

Takara Bio USA, Inc.

1290 Terra Bella Avenue

Mountain View, CA 94043

Phone: 800.662.2566/888.251.6618

Web: www.takarabio.com

### Emergency telephone number

**Emergency telephone** In case of emergency, call PERS (Professional Emergency Resource Services) 1-800-633-8253 (US) or 801-629-0667 (international).

## 2. Hazard(s) identification

### Classification

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Warning**

### Hazard statements

Harmful if inhaled

**Appearance** Clear, colorless**Physical state** Liquid**Odor** Unpleasant**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a POISON CENTER or doctor if you feel unwell

**Unknown acute toxicity**

1.90061 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Other information**

No information available.

### 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No	Weight-%	Trade secret
Glycerol	56-81-5	60 - 100	*

### 4. First-aid measures

**Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

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

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical** No information available.

**Explosion Data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**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

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ensure adequate ventilation. Avoid breathing vapors or mists. Use personal protective equipment as required.

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

**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** Pick up and transfer to properly labeled containers.

## 7. Handling and storage

**Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid breathing vapors or mists. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

## 8. Exposure controls/personal protection

Control parameters**Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Glycerol 56-81-5	-	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 10 mg/m <sup>3</sup> (vacated) TWA: 5 mg/m <sup>3</sup>	-

Appropriate engineering controls

**Engineering controls**                      Showers  
 Eyewash stations  
 Ventilation systems.

Individual protection measures, such as personal protective equipment

**Eye/face protection**                      No special protective equipment required.

**Skin and body protection**                      No special protective equipment required.

**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**                      Do not eat, drink or smoke when using this product.

## 9. Physical and chemical properties

Information on basic physical and chemical properties

**Physical state**                      Liquid  
**Appearance**                      Clear, colorless  
**Color**                      Clear  
**Odor**                      Unpleasant  
**Odor Threshold**                      No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		None known
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point/boiling range (°C)</b>	No data available	None known
<b>Flash point</b>	No data available	Open cup
<b>Evaporation Rate</b>	no data available	None known
<b>Flammability (solid, gas)</b>	no data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability limit:</b>	No data available	
<b>Lower flammability limit:</b>	No data available	
<b>Vapor pressure</b>	no data available	None known
<b>Vapor density</b>	No data available	None known
<b>Relative density</b>		None known
<b>Water solubility</b>	No data available	None known
<b>Solubility in other solvents</b>	no data available	None known
<b>Partition coefficient</b>	no data available	None known
<b>Autoignition temperature</b>	392.8 °C / 739 °F	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic Viscosity</b>	no data available	None known

Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular Weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk Density</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to Avoid</b>	Excessive heat.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Coughing and/ or wheezing.
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### Acute toxicity

#### Numerical measures of toxicity

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

<b>ATEmix (oral)</b>	19,968.30 mg/kg
<b>ATEmix (dermal)</b>	15,863.70 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	4.3624 mg/l

#### Unknown acute toxicity

1.90061 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol 56-81-5	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	No information available.
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<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target organ effects</b>	Kidney, Respiratory system, Eyes, Skin.
<b>Aspiration hazard</b>	No information available.
<b>Other adverse effects</b>	No information available.
<b>Interactive effects</b>	No information available.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Glycerol 56-81-5	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	-	-

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

### Component Information

Chemical name	Partition coefficient
Glycerol 56-81-5	-1.76

**Other adverse effects** No information available.

## 13. Disposal considerations

### Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## 14. Transport information

<b><u>DOT</u></b>	Not regulated
<b><u>TDG</u></b>	Not regulated
<b><u>MEX</u></b>	Not regulated
<b><u>ICAO (air)</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b><u>IMDG</u></b>	Not regulated
<b><u>RID</u></b>	Not regulated
<b><u>ADR</u></b>	Not regulated
<b><u>ADN</u></b>	Not regulated

## 15. Regulatory information

### International Inventories

**TSCA** - .

\*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

**DSL/NDSL** - .  
**EINECS/ELINCS** - .  
**ENCS** - .  
**IECSC** - .  
**KECL** - .  
**PICCS** - .  
**AICS** - .

#### **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

### US 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**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

#### **CWA (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.

#### **US State Regulations**

##### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated under applicable state right-to-know regulations

#### **U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

### **16. Other information**

<b><u>NFPA</u></b>	<b>Health hazards</b> 2	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special hazards</b> -
<b><u>HMIS</u></b>	<b>Health hazards</b> 2	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> X

#### **Key or legend to abbreviations and acronyms used in the safety data sheet**

##### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	Time weighted average	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 Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization



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<b>Revision Date</b>	2021-02-06
<b>Revision Note</b>	No information available.

**Disclaimer**

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**End of Safety Data Sheet**