

## 1. Identification

### A. Product identifier

**Product Name** T7 RNA Polymerase ver.2.0  
**Product Code** SD8140

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

**Identified uses** For research use only. Not for use in diagnostic procedures  
**Uses advised against** No information available

### C. Supplier's details

#### Supplier

Japan:

Takara Bio Inc.  
Nojihigashi 7-4-38  
Kusatsu, Shiga 525-0058, Japan  
Phone: +81.77.565.6972  
Web: www.takara-bio.com

Korea:

Takara Korea Biomedical Inc.  
601, New T Castle, 108, Gasan Digital 2-ro, Geumcheon-gu  
Seoul 08506, Korea  
Phone: +82.2.2081.2525  
Web: www.takara.co.kr

For further information, please contact:

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

## 2. Hazard(s) identification

### A. Classification of the substance or mixture

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
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### B. GHS Label elements, including precautionary statements

#### Hazard symbols



**Signal word**

Warning

**Hazard Statements**

H332 - Harmful if inhaled

**Precautionary Statements - Prevention**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P271 - Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a POISON CENTER or doctor if you feel unwell

**C. Other hazards which do not result in classification**

No information available.

**3. Composition/information on ingredients****Substance**

Not applicable

**Mixture**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**4. First-aid measures****A. In case of eye contact**

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

**B. In case of skin contact**

Wash skin with soap and water.

**C. In case of inhalation**

Remove to fresh air. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**D. In case of ingestion**

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.

**E. Indication of immediate medical attention and special treatment needed, if necessary****General advice** Show this safety data sheet to the doctor in attendance.**Note to physicians** Treat symptomatically.**Symptoms** Coughing and/ or wheezing. Difficulty in breathing.**Self-protection of the first aider** 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.**5. Fire-fighting measures****A. Suitable (and unsuitable) extinguishing media****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.

**B. Specific hazards arising from the chemical**

No information available.

**C. Special Protective Equipment for Firefighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

**A. 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.

**For emergency responders** Use personal protection recommended in Section 8.

**B. Environmental precautions**

See Section 12 for additional Ecological Information.

**C. 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.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

**A. 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.

**B. 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.

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

## 8. Exposure controls/personal protection

**A. Control Parameters**

**Occupational exposure limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**B. Appropriate engineering controls**

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.

**C. Personal Protective Equipment**

<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Eye protection</b>	No special protective equipment required.
<b>Hand protection</b>	No special protective equipment required.
<b>Body protection</b>	No special protective equipment required.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

<b>A. Appearance</b>	Clear, colorless
<b>Physical State</b>	Liquid
<b>Color</b>	Colorless
<b>B. Odor</b>	Unpleasant
<b>C. Odor Threshold</b>	No information available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>D. pH</b>	No data available	None known
<b>E. Melting point / freezing point</b>	No information available	None known
<b>F. Initial boiling point and boiling range</b>	No information available	None known
<b>G. Flash point</b>	No information available	Open cup
<b>H. Evaporation Rate</b>	No information available	None known
<b>I. Flammability (solid, gas)</b>	No information available	None known
<b>J. Upper/lower flammability or explosive limits</b>		
<b>Upper flammability limit:</b>		No information available
<b>Lower flammability limit:</b>		No information available
<b>K. Vapor pressure</b>	No information available	None known
<b>L. Solubility(ies)</b>		
<b>Water solubility</b>	No information available	None known
<b>Solubility in other solvents</b>	No information available	None known
<b>M. Vapor density</b>	No information available	None known
<b>N. Specific Gravity</b>	No information available	None known
<b>O. Partition coefficient: n-octanol/water</b>	No information available	None known
<b>P. Autoignition Point</b>	No information available	None known
<b>Q. Decomposition temperature</b>		None known
<b>R. Viscosity</b>		
<b>Kinematic viscosity</b>	No information available	None known
<b>Dynamic Viscosity</b>	No information available	None known
<b>S. Molecular weight</b>	No information available	
<b><u>Other information</u></b>		
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	
<b>Softening point</b>	No information available	
<b>VOC content</b>	No information available	
<b>Liquid Density</b>	No information available	

## 10. Stability and reactivity

### A. Chemical stability and possibility of hazardous reactions

**Stability** Stable under normal conditions.

**Possibility of hazardous reactions** None under normal processing.

#### Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### B. Conditions to avoid

Excessive heat.

### C. Incompatible materials

None known based on information supplied.

### D. Hazardous Decomposition Products

None known based on information supplied

## 11. Toxicological information

### A. Information on the likely routes of exposure

#### Product Information

**Inhalation** Specific test data for the substance or mixture is not available. Harmful by inhalation. (based on components).

**Ingestion** 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.

**Symptoms** Coughing and/ or wheezing.

### B. Health hazards information

#### Acute toxicity

#### Numerical measures of toxicity

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

**ATEmix (oral)** 19,968.30 mg/kg

**ATEmix (dermal)** 15,847.90 mg/kg

**ATEmix (inhalation-dust/mist)** 4.36 mg/l

#### Unknown acute toxicity

1.00001 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Skin corrosion/irritation** No information available.

**Serious eye damage/irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Carcinogenicity** No information available.

**Germ cell mutagenicity** No information available.

**Reproductive toxicity** No information available.

**Specific target organ toxicity (STOT) – single exposure** No information available.

**Specific target organ toxicity (STOT) – repeated exposure** No information available.

**Target organ effects** Kidney. Respiratory system. Eyes. Skin.

**Aspiration hazard** No information available.

## 12. Ecological information

### A. Ecotoxicity

**Percentage for unknown hazards** 1E-05 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**B. Persistence and degradability** No information available.

**C. Bioaccumulative potential** There is no data for this product.

**D. Mobility in soil** No information available.

**Mobility** No information available.

**E. Other adverse effects** No information available.

## 13. Disposal considerations

### A. Waste treatment methods

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

### B. Disposal considerations

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

<b>A. UN number or ID number</b>	Not regulated
<b>B. UN proper shipping name</b>	Not regulated
<b>C. Transport hazard class(es)</b>	Not regulated
<b>D. Packing group</b>	Not regulated
<b>E. Marine pollutant</b>	Not applicable
<b>F. Special precautions for user</b>	Not regulated

## 15. Regulatory information

**A. Industrial Safety and Health Law** Not applicable

**Prohibited substance** Not applicable

**Substances Requiring Permission** Not applicable

**Harmful substances subject to control** Not applicable

**Harmful agents subject to work environment monitoring** Not applicable

**Harmful agents subject to workers requiring health examination** Not applicable

**Harmful or dangerous substances subject to submission of process safety reports** Not applicable

**B. Chemicals Control Act** Not applicable

**Chemicals Control Act (CCA) - Accident Precaution Chemicals Act on Registration, Evaluation, etc. of Chemicals (K-REACH)** Not applicable

**C. Safety Control of Dangerous Substances Act** Not applicable

**D. Wastes Management** Dispose of waste in accordance with environmental legislation.

**E. Other Regulations** No information available

### International Inventories

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*

## 16. Other information

### A. Information source and references

**Prepared By** No information available.

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

IMDG International Maritime Dangerous Goods (IMDG)

### 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

**B Revision number and date**

<b>Revision Number</b>	1
<b>Revision Date</b>	2023-09-18

**C. Other****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 Safety Data Sheet**