

Revision Date 2023-09-18

Revision Number 1

1. Identification

A. Product identifier

Product Name 10X T7 RNA Polymerase Buffer**Product Code** SD8141

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

Not classified

B. GHS Label elements, including precautionary statements

Hazard symbols**Hazard Statements**

Not classified

C. Other hazards which do not result in classification

No information available.

3. Composition/information on ingredients

Substance

Not applicable

Mixture

Chemical name	Common name and synonyms	CAS No	Other identifier number	Weight-%	Approval number	Expiration date
Magnesium chloride	No information available	7786-30-3	KE-22691	1 - 5	-	-

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.

D. In case of ingestion

Clean mouth with water and drink afterwards plenty of water.

E. Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

Symptoms No information available.

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.

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.

B. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

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

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

Engineering controls Showers
Eyewash stations
Ventilation systems.

Environmental exposure controls No information available.

C. Personal Protective Equipment

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.

Eye protection No special protective equipment required.

Hand protection No special protective equipment required.

Body protection No special protective equipment required.

9. Physical and chemical properties

Information on basic physical and chemical properties

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

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

None known based on information supplied.

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.
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	No information available.

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)	42,535.40 mg/kg
ATEmix (dermal)	32,146.10 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium chloride	= 2800 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

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 No information available.

Aspiration hazard No information available.

12. Ecological information

A. Ecotoxicity

Percentage for unknown hazards 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Magnesium chloride	EC50: >82.7mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 1970 - 3880mg/L (96h, Pimephales promelas)	-	EC50: =140mg/L (48h, Daphnia magna)

B. Persistence and degradability No information available.

C. Bioaccumulative potential No information available.

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

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

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

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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