

SAFETY DATA SHEET



T7 RNA Polymerase 5000U, Part Number 600123

Section 1. Identification

Product identifier : T7 RNA Polymerase 5000U, Part Number 600123
Part No. (Chemical Kit) : 600123
Part No. : T7 RNA Polymerase 600123-51
 RNA Polymerase Dilution Buffer 600110-83
 5X Transcription Buffer 600110-82

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

Analytical reagent.

T7 RNA Polymerase 100 µl (5000 U 50 U/µl)
 RNA Polymerase Dilution Buffer 1 ml
 5X Transcription Buffer 1 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
 679 Springvale Road
 Mulgrave
 Victoria 3170, Australia
 1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

Not classified.

T7 RNA Polymerase	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
RNA Polymerase Dilution Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 30 - 60%
5X Transcription Buffer	Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 1 - 10%

GHS label elements

Signal word : T7 RNA Polymerase No signal word.
 RNA Polymerase Dilution Buffer No signal word.
 5X Transcription Buffer No signal word.

Hazard statements : T7 RNA Polymerase No known significant effects or critical hazards.
 RNA Polymerase Dilution Buffer No known significant effects or critical hazards.
 5X Transcription Buffer No known significant effects or critical hazards.

Precautionary statements

Prevention : T7 RNA Polymerase Not applicable.
 RNA Polymerase Dilution Buffer Not applicable.
 5X Transcription Buffer Not applicable.

Response : T7 RNA Polymerase Not applicable.
 RNA Polymerase Dilution Buffer Not applicable.
 5X Transcription Buffer Not applicable.

Section 2. Hazard(s) identification

Storage	: T7 RNA Polymerase	Not applicable.
	RNA Polymerase Dilution Buffer	Not applicable.
	5X Transcription Buffer	Not applicable.
Disposal	: T7 RNA Polymerase	Not applicable.
	RNA Polymerase Dilution Buffer	Not applicable.
	5X Transcription Buffer	Not applicable.
Supplemental label elements	: T7 RNA Polymerase	Not applicable.
	RNA Polymerase Dilution Buffer	Not applicable.
	5X Transcription Buffer	Not applicable.
Other hazards which do not result in classification	: T7 RNA Polymerase	None known.
	RNA Polymerase Dilution Buffer	None known.
	5X Transcription Buffer	None known.

Section 3. Composition and ingredient information

Substance/mixture	: T7 RNA Polymerase	Mixture
	RNA Polymerase Dilution Buffer	Mixture
	5X Transcription Buffer	Mixture

CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
T7 RNA Polymerase Glycerol	≥30 - ≤60	56-81-5
RNA Polymerase Dilution Buffer Glycerol	≥30 - ≤60	56-81-5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: T7 RNA Polymerase	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	RNA Polymerase Dilution Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	5X Transcription Buffer	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: T7 RNA Polymerase	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	RNA Polymerase Dilution Buffer	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
	5X Transcription Buffer	Remove victim to fresh air and keep at rest in a

Section 4. First aid measures

		position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin contact	: T7 RNA Polymerase	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	RNA Polymerase Dilution Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	5X Transcription Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: T7 RNA Polymerase	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	RNA Polymerase Dilution Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	5X Transcription Buffer	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: T7 RNA Polymerase	No known significant effects or critical hazards.
	RNA Polymerase Dilution Buffer	No known significant effects or critical hazards.
	5X Transcription Buffer	No known significant effects or critical hazards.
Inhalation	: T7 RNA Polymerase	No known significant effects or critical hazards.
	RNA Polymerase Dilution Buffer	No known significant effects or critical hazards.
	5X Transcription Buffer	No known significant effects or critical hazards.
Skin contact	: T7 RNA Polymerase	No known significant effects or critical hazards.
	RNA Polymerase Dilution Buffer	No known significant effects or critical hazards.
	5X Transcription Buffer	No known significant effects or critical hazards.
Ingestion	: T7 RNA Polymerase	No known significant effects or critical hazards.
	RNA Polymerase Dilution Buffer	No known significant effects or critical hazards.
	5X Transcription Buffer	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: T7 RNA Polymerase	No specific data.
	RNA Polymerase Dilution Buffer	No specific data.
	5X Transcription Buffer	No specific data.

Section 4. First aid measures

Inhalation	: T7 RNA Polymerase	No specific data.
	RNA Polymerase Dilution Buffer	No specific data.
	5X Transcription Buffer	No specific data.
Skin contact	: T7 RNA Polymerase	No specific data.
	RNA Polymerase Dilution Buffer	No specific data.
	5X Transcription Buffer	No specific data.
Ingestion	: T7 RNA Polymerase	No specific data.
	RNA Polymerase Dilution Buffer	No specific data.
	5X Transcription Buffer	No specific data.

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

Notes to physician	: T7 RNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	RNA Polymerase Dilution Buffer	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	5X Transcription Buffer	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: T7 RNA Polymerase	No specific treatment.
	RNA Polymerase Dilution Buffer	No specific treatment.
	5X Transcription Buffer	No specific treatment.
Protection of first-aiders	: T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training.
	RNA Polymerase Dilution Buffer	No action shall be taken involving any personal risk or without suitable training.
	5X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media	: T7 RNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	RNA Polymerase Dilution Buffer	Use an extinguishing agent suitable for the surrounding fire.
	5X Transcription Buffer	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: T7 RNA Polymerase	None known.
	RNA Polymerase Dilution Buffer	None known.
	5X Transcription Buffer	None known.
Specific hazards arising from the chemical	: T7 RNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	RNA Polymerase Dilution Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X Transcription Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Firefighting measures

Hazardous thermal decomposition products	: T7 RNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	RNA Polymerase Dilution Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	5X Transcription Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
Special protective actions for fire-fighters	: T7 RNA Polymerase	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	RNA Polymerase Dilution Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	5X Transcription Buffer	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: T7 RNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	RNA Polymerase Dilution Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	5X Transcription Buffer	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: T7 RNA Polymerase	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	RNA Polymerase Dilution Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	5X Transcription Buffer	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders :	T7 RNA Polymerase	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RNA Polymerase Dilution Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	5X Transcription Buffer	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions :	T7 RNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	RNA Polymerase Dilution Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	5X Transcription Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up :	T7 RNA Polymerase	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	RNA Polymerase Dilution Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	5X Transcription Buffer	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures :	T7 RNA Polymerase	Put on appropriate personal protective equipment (see Section 8).
	RNA Polymerase Dilution Buffer	Put on appropriate personal protective equipment (see Section 8).
	5X Transcription Buffer	Put on appropriate personal protective equipment (see Section 8).

Section 7. Handling and storage

Advice on general occupational hygiene

: T7 RNA Polymerase

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

RNA Polymerase Dilution Buffer

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

5X Transcription Buffer

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: T7 RNA Polymerase

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

RNA Polymerase Dilution Buffer

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

5X Transcription Buffer

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
T7 RNA Polymerase Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.
RNA Polymerase Dilution Buffer Glycerol	Safe Work Australia (Australia, 1/2014). TWA: 10 mg/m ³ 8 hours.

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : T7 RNA Polymerase Liquid.
RNA Polymerase Dilution Buffer Liquid.
5X Transcription Buffer Liquid.
- Colour** : T7 RNA Polymerase Not available.
RNA Polymerase Dilution Buffer Not available.
5X Transcription Buffer Not available.

Section 9. Physical and chemical properties

Odour	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Odour threshold	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
pH	: T7 RNA Polymerase	7.7
	RNA Polymerase Dilution Buffer	7.7
	5X Transcription Buffer	8
Melting point	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	0°C (32°F)
Boiling point	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	100°C (212°F)
Flash point	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Evaporation rate	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Flammability (solid, gas)	: T7 RNA Polymerase	Not applicable.
	RNA Polymerase Dilution Buffer	Not applicable.
	5X Transcription Buffer	Not applicable.
Lower and upper explosive (flammable) limits	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Vapour pressure	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Vapour density	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Relative density	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Solubility	: T7 RNA Polymerase	Easily soluble in the following materials: cold water and hot water.
	RNA Polymerase Dilution Buffer	Soluble in the following materials: cold water and hot water.
	5X Transcription Buffer	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.

Section 9. Physical and chemical properties

Auto-ignition temperature	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Decomposition temperature	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.
Viscosity	: T7 RNA Polymerase	Not available.
	RNA Polymerase Dilution Buffer	Not available.
	5X Transcription Buffer	Not available.

Section 10. Stability and reactivity

Reactivity	: T7 RNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
	RNA Polymerase Dilution Buffer	No specific test data related to reactivity available for this product or its ingredients.
	5X Transcription Buffer	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: T7 RNA Polymerase	The product is stable.
	RNA Polymerase Dilution Buffer	The product is stable.
	5X Transcription Buffer	The product is stable.
Possibility of hazardous reactions	: T7 RNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
	RNA Polymerase Dilution Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	5X Transcription Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: T7 RNA Polymerase	No specific data.
	RNA Polymerase Dilution Buffer	No specific data.
	5X Transcription Buffer	No specific data.
Incompatible materials	: T7 RNA Polymerase	May react or be incompatible with oxidising materials.
	RNA Polymerase Dilution Buffer	May react or be incompatible with oxidising materials.
	5X Transcription Buffer	May react or be incompatible with oxidising materials.
Hazardous decomposition products	: T7 RNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RNA Polymerase Dilution Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5X Transcription Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
T7 RNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
RNA Polymerase Dilution Buffer Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
T7 RNA Polymerase Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
RNA Polymerase Dilution Buffer Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : T7 RNA Polymerase Routes of entry anticipated: Oral, Dermal, Inhalation.
RNA Polymerase Dilution Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.
5X Transcription Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : T7 RNA Polymerase No known significant effects or critical hazards.
RNA Polymerase Dilution Buffer No known significant effects or critical hazards.
5X Transcription Buffer No known significant effects or critical hazards.

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Inhalation	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No specific data. No specific data.
Inhalation	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No specific data. No specific data.
Skin contact	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No specific data. No specific data.
Ingestion	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No specific data. No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

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Teratogenicity	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: T7 RNA Polymerase RNA Polymerase Dilution Buffer 5X Transcription Buffer	No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
T7 RNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
RNA Polymerase Dilution Buffer Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
T7 RNA Polymerase Glycerol	-1.76	-	low
RNA Polymerase Dilution Buffer Glycerol	-1.76	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : At least one component is not listed in DSL but all such components are listed in NDSL.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.

Malaysia : Not determined.

New Zealand : All components are listed or exempted.

Philippines : Not determined.

Section 15. Regulatory information

Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 30/05/2017
Date of previous issue	: 29/08/2016.
Version	: 5

Key to abbreviations	: ADG = Australian Dangerous Goods ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) NOHSC = National Occupational Health and Safety Commission SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations
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Procedure used to derive the classification

Classification	Justification
Not classified.	

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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