


# Material Safety Data Sheet

Canada  
English

## Section 1. Chemical product and company identification

Product name	Thermo Sequenase™ DNA Polymerase, 10000 Units		
Catalogue Number	28960687	 9 0 2 8 9 6 0 6 8 7	
Component Number	28960687V		
Material uses	FOR LABORATORY USE. Industrial applications: Analytical reagent. Research.		
Product type	Liquid.		
Validation date	4 July 2011		
Print date	04 July 2011		
Supplier	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921		
<u>In case of emergency</u>	US	ChemTrec (US)	1-800-424-9300
	Canada	ChemTrec (US)	1-703-527-3887

## 2. Hazards identification

Physical state	Liquid.
Odor	Odorless.
Emergency overview	<b>CAUTION!</b> MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautionary measures	Do not breathe vapor or mist. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Wash thoroughly after handling.
<u>Potential acute health effects</u>	
Eyes	Moderately irritating to eyes.
Skin	Moderately irritating to the skin.
Inhalation	Moderately irritating to the respiratory system.
Ingestion	No known significant effects or critical hazards.
<u>Potential chronic health effects</u>	
Chronic effects	Contains material that may cause target organ damage, based on animal data.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Target organs	Contains material which may cause damage to the following organs: kidneys, upper respiratory tract, skin, eyes.
<u>Over-exposure signs/symptoms</u>	
Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No specific data.
Skin	Adverse symptoms may include the following: irritation redness



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<b>Eyes</b>	Adverse symptoms may include the following: irritation watering redness
<b>Medical conditions aggravated by over-exposure</b>	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
See toxicological information (Section 11)	

### 3. Composition/information on ingredients

<u>Name</u>		<u>CAS number</u>	<u>% by weight</u>
glycerol	56-81-5	21.07	-

### Section 4. First aid measures

<b>Eye contact</b>	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
<b>Skin contact</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
<b>Inhalation</b>	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Ingestion</b>	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
<b>Notes to physician</b>	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### Section 5. Fire-fighting measures

<b>Flammability of the product</b>	In a fire or if heated, a pressure increase will occur and the container may burst.
<b><u>Extinguishing media</u></b>	
<b>Suitable</b>	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	None known.
<b>Special exposure hazards</b>	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.
<b>Hazardous combustion products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide
<b>Special protective equipment for fire-fighters</b>	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

<b>Personal precautions</b>	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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	Avoid dispersal of spilled 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).
<b>Methods for cleaning up</b>	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
<b>Small spill</b>	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

### Handling

Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Storage

Store between the following temperatures: -30 to -15°C (-22 to 5°F). 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Product name

glycerol

### Exposure limits

#### CA Ontario Provincial (Canada, 7/2010).

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Inhalable fraction. See Appendix C, paragraph A. Inhalable Particulate Mass TLVs (IPM-TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.

#### CA Alberta Provincial (Canada, 4/2009). Skin sensitizer.

8 hrs OEL: 10 mg/m<sup>3</sup> 8 hour(s). Form: Mist

#### CA British Columbia Provincial (Canada, 10/2009).

TWA: 10 mg/m<sup>3</sup> 8 hour(s). Form: Mist

TWA: 3 mg/m<sup>3</sup> 8 hour(s). Form: Respirable mist

#### CA Quebec Provincial (Canada, 6/2008).

TWAEV: 10 mg/m<sup>3</sup> 8 hour(s). Form: mist

### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

### Engineering measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### 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.

### Personal protection

#### Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### Hands

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.

#### Eyes

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 or dusts.

#### Skin

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.

#### 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.

## Section 9. Physical and chemical properties

### Physical state

Liquid.

### Flash point

[Product does not sustain combustion.]

### Color

Clear.

### Odor

Odorless.

### pH

8.5 [Conc. (% w/w): 100%]

### VOC

0 % (w/w)

### Solubility

Easily soluble in the following materials: cold water and hot water.



## Section 10. Stability and reactivity

<b>Stability</b>	The product is stable.
<b>Conditions to avoid</b>	No specific data.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions of reactivity</b>	Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.

## Section 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glycerol	LD50 Intraperitoneal	Rat	4420 mg/kg	-
	LD50 Intravenous	Rat	5566 mg/kg	-
	LD50 Oral	Rat	12600 mg/kg	-
	LD50 Subcutaneous	Rat	100 mg/kg	-
	LDLo Intramuscular	Rat	10 mL/kg	-
	LDLo Intramuscular	Rat	10 mg/kg	-
	TDLo Intramuscular	Rat	8 mL/kg	-
	TDLo Intramuscular	Rat	4 mL/kg	-
	TDLo Intramuscular	Rat	>5000 mg/kg	-
	TDLo Intramuscular	Rat	4000 mg/kg	-

**Conclusion/Summary** Not available.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Not available.						

**Synergistic products** Not available.

## Section 12. Ecological information

**Environmental effects** No known significant effects or critical hazards.

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
glycerol	-	Acute LC50 54 to 57 mL/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours

**Conclusion/Summary** Not available.

**Partition coefficient: n-octanol/water** Not available.

**Bioconcentration factor** Not available.

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

## Section 13. Disposal considerations

**Waste disposal** The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**RCRA classification** Not available.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**



## Section 14. Transport information

### International transport regulations

Not classified.

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## Section 15. Regulatory information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### **WHMIS (Canada)**

Not controlled under WHMIS (Canada).

### **Canadian lists**

 **CEPA Toxic substances:** None of the components are listed.

**Canadian ARET:** None of the components are listed.

**Canadian NPRI:** None of the components are listed.

**Alberta Designated Substances:** None of the components are listed.

**Ontario Designated Substances:** None of the components are listed.

**Quebec Designated Substances:** None of the components are listed.

### **Canada inventory**

Not determined.

### International regulations

### **International lists**

 **Australia inventory (AICS):** Not determined.

**China inventory (IECSC):** Not determined.

**Japan inventory:** Not determined.

**Korea inventory:** Not determined.

**New Zealand Inventory of Chemicals (NZIoC):** Not determined.

**Philippines inventory (PICCS):** Not determined.

### **Chemical Weapons Convention List Schedule I Chemicals**

 Not listed

### **Chemical Weapons Convention List Schedule II Chemicals**

 Not listed

### **Chemical Weapons Convention List Schedule III Chemicals**

 Not listed

## Section 16. Other information

The customer is responsible for determining the PPE code for this material.



Indicates information that has changed from previously issued version.

### History

#### **Date of printing**

04 July 2011

#### **Date of previous issue**

03 September 2009

#### **Date of issue**

04 July 2011

#### **Version**

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### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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