



# Fisher Scientific

Part of Thermo Fisher Scientific

## Material Safety Data Sheet

Creation Date 16-Sep-2011

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Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** OPTIZYME™ T4 DNA Ligase

**Cat No.** BP8099-1, BP8099-5, BP8099-15

**Synonyms** No information available.

**Recommended Use** Laboratory chemicals

**Company** Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**  
CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. HAZARDS IDENTIFICATION

#### CAUTION!

#### Emergency Overview

May cause eye, skin, and respiratory tract irritation .

**Appearance** Colorless

**Physical State** Liquid

**odor** slight

**Target Organs** None known.

#### Potential Health Effects

#### Acute Effects

#### Principle Routes of Exposure

<b>Eyes</b>	May cause irritation.
<b>Skin</b>	May cause irritation.
<b>Inhalation</b>	May cause irritation.
<b>Ingestion</b>	May cause irritation.

**Chronic Effects** None known

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** Preexisting eye disorders. Kidney disorders. Skin disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Haz/Non-haz

Component	CAS-No	Weight %
Water	7732-18-5	25 - 50
Glycerin	56-81-5	>50

### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Rinse with plenty of water.
<b>Skin Contact</b>	Wash off with water.
<b>Inhalation</b>	Move to fresh air
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person.
<b>Notes to Physician</b>	Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

<b>Flash Point</b>	Not applicable
<b>Method</b>	No information available.
<b>Autoignition Temperature</b>	Not applicable
<b>Explosion Limits</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Unsuitable Extinguishing Media</b>	No information available.
<b>Hazardous Combustion Products</b>	No information available.
<b>Sensitivity to mechanical impact</b>	No information available.
<b>Sensitivity to static discharge</b>	No information available.

#### Specific Hazards Arising from the Chemical

No information available.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**NFPA**                      **Health** 1                      **Flammability** 0                      **Instability** 0                      **Physical hazards** N/A

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Ensure adequate ventilation
<b>Environmental Precautions</b>	Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.
<b>Methods for Containment and Clean Up</b>	Soak up with inert absorbent material.

## 7. HANDLING AND STORAGE

**Handling** Handle in accordance with good industrial hygiene and safety practice.

**Storage** Keep container tightly closed. Store product at -20C.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures** Ensure adequate ventilation, especially in confined areas

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerin	TWA: 10 mg/m <sup>3</sup>	(Vacated) TWA: 10 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Glycerin	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

**NIOSH IDLH:** Immediately Dangerous to Life or Health

### Personal Protective Equipment

#### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

#### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

#### Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>odor</b>	slight
<b>Odor Threshold</b>	No information available.
<b>pH</b>	7.5
<b>Vapor Pressure</b>	No information available.
<b>Vapor Density</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Boiling Point/Range</b>	No information available.
<b>Melting Point/Range</b>	No information available.
<b>Decomposition temperature</b>	No information available.
<b>Flash Point</b>	Not applicable
<b>Evaporation Rate</b>	No information available.
<b>Specific Gravity</b>	No information available.
<b>Solubility</b>	No information available.
<b>log Pow</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	No information available.
<b>Incompatible Materials</b>	No information available
<b>Hazardous Decomposition Products</b>	None under normal use conditions
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur
<b>Hazardous Reactions .</b>	None under normal processing.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation (Dust)
Glycerin	12600 mg/kg ( Rat )	21900 mg/kg ( Rat )	Not listed

<b>Irritation</b>	No information available.
<b>Toxicologically Synergistic Products</b>	No information available.
 <b><u>Chronic Toxicity</u></b>	
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product
<b>Sensitization</b>	None known
<b>Mutagenic Effects</b>	None known
<b>Reproductive Effects</b>	No information available.
<b>Developmental Effects</b>	No information available.
<b>Teratogenicity</b>	No information available.
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.
<b>Endocrine Disruptor Information</b>	No information available

## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Glycerin	Not listed	51 - 57 mL/L LC50 96 h	Not listed	500 mg/L EC50 > 24 h

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available

**Mobility**

Component	log Pow
Glycerin	-1.76

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

## 14. TRANSPORT INFORMATION

### DOT

**UN-No** UN1845  
**Proper Shipping Name** CARBON DIOXIDE, SOLID  
**Hazard Class** 9  
**Packing Group** III

### TDG

**UN-No** UN1845  
**Proper Shipping Name** CARBON DIOXIDE, SOLID  
**Hazard Class** 9  
**Packing Group** III

### IATA

**UN-No** UN1845  
**Proper Shipping Name** CARBON DIOXIDE, SOLID  
**Hazard Class** 9  
**Packing Group** III

### IMDG/IMO

**UN-No** UN1845  
**Proper Shipping Name** CARBON DIOXIDE, SOLID  
**Hazard Class** 9

**14. TRANSPORT INFORMATION**

Packing Group

III

**15. REGULATORY INFORMATION**

**International Inventories**

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	X
Glycerin	X	X	-	200-289-5	-		X	X	X	X	X

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**SARA 313**

Not applicable

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**Clean Water Act**

Not applicable

**Clean Air Act**

Not applicable

**OSHA**

Not applicable

**CERCLA**

Not Applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Glycerin	X	X	X	-	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

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

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
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**Creation Date** 16-Sep-2011

**Print Date** 01-Aug-2012

**Revision Summary** "\*\*\*\*", and red text indicates revision

**Disclaimer**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of MSDS**