

## 1. Identification of the substance/mixture and of the company/undertaking

### Identification of the substance/preparation

**Product code** 4388661  
**Product name** 20X Multiplex RT-PCR Enzyme Mix

### Company/Undertaking Identification

Life Technologies  
5791 VAN ALLEN WAY  
PO BOX 6482  
CARLSBAD, CA 92008  
+1 760 603 7200

INVITROGEN CORPORATION  
5250 MAINWAY DRIVE  
BURLINGTON, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response (Transport):** 866-536-0631  
301-431-8585  
Outside of the U.S. +1-301-431-8585

**For research use only Not intended for human or animal diagnostic or therapeutic uses**

**GHS - Classification****Signal Word**

not hazardous

**Health Hazard**

not hazardous

**Physical Hazards**

not hazardous

**Principle Routes of Exposure/****Potential Health effects****Eyes**

May cause eye irritation with susceptible persons.

**Skin**

May cause skin irritation in susceptible persons.

**Inhalation**

May be harmful by inhalation.

**Ingestion**

May be harmful if swallowed.

**Specific effects****carcinogenic effects**

none.

**mutagenic effects**

none.

**Reproductive toxicity**

none.

**Sensitization**

none

**Aggravated Medical  
Conditions**

No known effects under normal use conditions

**HMIS**

Health	0
Flammability	0
Reactivity	0

### 3. Composition/information on ingredients

Chemical Name	CAS-No	EINECS-No	Weight %
Ethylene oxide (impurity)	75-21-8	200-849-9	<0.01
Glycerol	56-81-5	200-289-5	30-60

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

### 4. First aid measures

<b>Skin contact</b>	Rinse with plenty of water. If symptoms arise, call a physician.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
<b>Notes to physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b>Special protective equipment for firefighters</b>	Wear self-contained breathing apparatus and protective suit

### 6. Accidental release measures

<b>Personal precautions</b>	Use personal protective equipment
<b>Methods for cleaning up</b>	Soak up with inert absorbent material

#### Environmental precautions

Prevent further leakage or spillage if safe to do so

See Section 12 for additional information.

### 7. Handling and storage

<b>Handling</b>	Always wear recommended Personal Protective Equipment. No special handling advice required.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place.

### 8. Exposure controls/personal protection

#### Exposure limits

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Ethylene oxide (impurity)	1 ppm	-	1 ppm	-

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Glycerol	15 mg/m <sup>3</sup> total 5 mg/m <sup>3</sup>	-	10 mg/m <sup>3</sup>	-
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**Engineering measures** Ensure adequate ventilation, especially in confined areas

#### **Personal protective equipment**

**Respiratory protection** In case of insufficient ventilation wear suitable respiratory equipment

**Hand protection** Impervious gloves

**Eye protection** Safety glasses with side-shields

**Skin and body protection** Lightweight protective clothing

**Hygiene measures** Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls** Prevent product from entering drains

### 9. Physical and chemical properties

#### **General Information**

**Form** liquid

**Appearance** No information available

**Odor** No information available

**Boiling Point/Range** °C no data available °F no data available

**Melting point/range** °C no data available °F no data available

**Flash point** °C no data available °F no data available

**Autoignition temperature** °C no data available °F no data available

**Oxidizing properties** No information available

**Water solubility** soluble

### 10. Stability and reactivity

**Stability** Stable under normal conditions.

**Materials to avoid** No dangerous reaction known under conditions of normal use.

**Hazardous decomposition products** None under normal use.

**polymerization** Hazardous polymerisation does not occur.

### 11. Toxicological information

#### **Acute toxicity**

**Acute toxicity** not hazardous.

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Ethylene oxide (impurity)	= 72 mg/kg (Rat)	no data available	no data available
Glycerol	= 12600 mg/kg Oral	no data available	no data available

#### **Principle Routes of Exposure/ Potential Health effects**

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<b>Eyes</b>	May cause eye irritation with susceptible persons.
<b>Skin</b>	May cause skin irritation in susceptible persons.
<b>Inhalation</b>	May be harmful by inhalation.
<b>Ingestion</b>	May be harmful if swallowed.

<b>carcinogenic effects</b>	none.
<b>mutagenic effects</b>	none.
<b>Reproductive toxicity</b>	none.
<b>Sensitization</b>	none.

<b>Aggravated Medical Conditions</b>	No known effects under normal use conditions.
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12. Ecological information

<b>Ecotoxicity effects</b>	No information available
<b>Mobility</b>	No information available
<b>Biodegradation</b>	Inherently biodegradable.
<b>Bioaccumulation</b>	Does not bioaccumulate.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
<b>Ethylene oxide (impurity)</b> <b>75-21-8</b>		Daphnia magna LC50137 - 300 mg/L (48 h)			logPow-0.3
<b>Glycerol</b> <b>56-81-5</b>		Daphnia magna EC50>500 mg/L (24 h)			logPow-1.76

13. Disposal considerations

Dispose of in accordance with local regulations

14. Transport information

<b>IATA</b>	
<b>Proper shipping name</b>	Not classified as dangerous in the meaning of transport regulations
<b>Hazard class</b>	none
<b>Subsidiary Class</b>	none
<b>Packing group</b>	none
<b>UN-No</b>	None

## 15. Regulatory information

Component	TSCA
Ethylene oxide (impurity) 75-21-8 ( <0.01 )	Listed
Glycerol 56-81-5 ( 30-60 )	Listed

### U.S. Federal Regulations

#### SARA 313

This product is not regulated by SARA.

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Ethylene oxide (impurity)	75-21-8	<0.01	0.1

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contains HAPs.

Component	CAS-No	Weight %	HAPS data
Ethylene oxide (impurity) 75-21-8 ( <0.01 )	75-21-8	<0.01	Present

### U.S. State Regulations

Chemical Name	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK	Illinois - RTK	Rhode Island - RTK
Ethylene oxide (impurity)	Listed	Listed	Listed	Listed	Listed
Glycerol	Listed	-	Listed	-	Listed

#### California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	Weight %	Category	Type
Ethylene oxide (impurity)	75-21-8	<0.01	Carcinogen	Female Reproductive

#### WHMIS hazard class:

\_Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

## 16. Other information

**Reason for Revision** (M)SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

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The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

**End of Safety Data Sheet**