

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 10296010  
**Product name** TRIZOL LS REAGENT

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

#### 24 hour Emergency Response:

866-536-0631  
301-431-8585

#### 24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC

Outside of the U.S. +1-301-431-8585  
Within the USA + Canada: 1-800-424-9300 and  
1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

#### Country Specific Emergency Number (if available):

For research use only. Not for use in diagnostic procedures

### SECTION 2: Hazards identification

#### GHS - Classification

**Signal Word**  
DANGER

#### Hazard pictograms



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## Health hazards

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 3
Acute Inhalation Toxicity - Vapors	Category 3
Skin corrosion/irritation	Category 1 B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (STOT) – single exposure	Category 3
Specific target organ toxicity (STOT) – repeated exposure	Category 2

Germ cell mutagenicity	Mutagenic category 2
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## Physical hazards

Not classified

## Environmental hazards

Chronic aquatic hazard	Category 3
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## Hazard Statements

H301 - Toxic if swallowed  
H311 - Toxic in contact with skin  
H331 - Toxic if inhaled  
H314 - Causes severe skin burns and eye damage  
H335 - May cause respiratory irritation  
H341 - Suspected of causing genetic defects  
H373 - May cause damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

## Precautionary Statements

### Prevention

P201 - Obtain special instructions before use  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 - Wash hands thoroughly after handling  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P273 - Avoid release to the environment

### Response

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
DO NOT USE: P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

## Other hazards

No information available

**HMIS**

Health	4 * Chronic Hazard
Flammability	0
Reactivity	0

## SECTION 3: Composition/information on ingredients

Component	CAS No.	Common name	EINECS-No	Weight-%
Phenol 108-95-2 ( 30-60 )	108-95-2	-	203-632-7	30-60
Guanidine isothiocyanate 593-84-0 ( 15-40 )	593-84-0	-	209-812-1	15-40
Ammonium thiocyanate 1762-95-4 ( 7-13 )	1762-95-4	-	217-175-6	7-13

Contact with acids or bleach liberates toxic gases. DO NOT ADD acids or bleach to any liquid wastes containing this product. We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

**Description of first aid measures**

<b>Skin contact</b>	Rinse with plenty of water. Immediate medical attention is not required.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Ingestion</b>	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
<b>Inhalation</b>	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
<b>Notes to Physician</b>	Treat symptomatically.

**Most important symptoms and effects, both acute and delayed**

H301 - Toxic if swallowed H311 - Toxic in contact with skin H331 - Toxic if inhaled H314 - Causes severe skin burns and eye damage H335 - May cause respiratory irritation H341 - Suspected of causing genetic defects H373 - May cause damage to organs through prolonged or repeated exposure H412 - Harmful to aquatic life with long lasting effects

**Indication of any immediate medical attention and special treatment needed**

If skin irritation occurs: Get medical advice/ attention. Wear protective gloves/protective clothing and eye/face protection. IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell.

## SECTION 5: Firefighting measures

### Extinguishing media

**Suitable extinguishing media**  
**Unsuitable extinguishing media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Foam. Dry chemical.  
No information available.

### Special hazards arising from the substance or mixture

Not known.

### Protective equipment and precautions for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See Section 8 for more detail

### Environmental precautions

Should not be released into the environment.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Phenol	5 ppm 19 mg/m <sup>3</sup>	None	5 ppm	None
Guanidine isothiocyanate	None	None	None	None
Ammonium thiocyanate	5 mg/m <sup>3</sup>	None	None	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
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Phenol	4 ppm 15 mg/m <sup>3</sup>	None	skin designation
Guanidine isothiocyanate	None	None	None
Ammonium thiocyanate	None	None	None

**Engineering measures**      Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### **Personal Protective Equipment**

**Respiratory protection**      In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

**Hand protection**              Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

**Eye protection**                Tight sealing safety goggles.

**Skin and Body Protection**    Wear suitable protective clothing.

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

**Environmental exposure controls**  
Should not be released into the environment.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	liquid	
<b>Odor</b>	No data	
<b>Molecular Weight</b>	No data	
<b>Melting point / melting range</b>	°C No data	°F No data
<b>Boiling point / boiling range</b>	°C No data	°F No data
<b>Flash point</b>	°C No data	°F No data
<b>Autoignition Temperature</b>	°C No data	°F No data
<b>Decomposition temperature</b>	°C No data	°F No data
<b>Evaporation rate</b>	No data	
<b>Flammability (solid, gas)</b>	No data	
<b>Upper explosion limit</b>	No data	
<b>Lower explosion limit</b>	No data	
<b>Vapor Pressure</b>	No data	
<b>Vapor density</b>	No data	
<b>Relative density</b>	No data	
<b>Specific gravity</b>	No data	
<b>Solubility</b>	No data	
<b>Partition coefficient: n-octanol/water</b>	No data	
<b>Viscosity</b>	No data	
<b>Explosive properties</b>	No data	
<b>Oxidizing properties</b>	No data	

**Other information**  
No data.

## SECTION 10: Stability and reactivity

<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous reaction has not been reported.
<b>Conditions to avoid</b>	Contact with acids or bleach liberates toxic gases. DO NOT ADD acids or bleach to any liquid wastes containing this product.
<b>Incompatible materials</b>	No dangerous reaction known under conditions of normal use.
<b>Hazardous decomposition products</b>	No data available.

## SECTION 11: Toxicological information

### Information on toxicological effects

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
Phenol	= 317 mg/kg (Rat) = 340 mg/kg (Rat)	No data available	=316mg/m <sup>3</sup> (Rat)
Guanidine isothiocyanate	764mg/kg	2000 mg/kg	5.319 mg/L (4H)
Ammonium thiocyanate	= 750 mg/kg (Rat)	No data available	No data available

### Principal Routes of Exposure

<b>Acute toxicity</b>	Data are conclusive but insufficient for classification
<b>Skin corrosion/irritation</b>	Skin irritation Serious Eye Damage / Eye Irritation
<b>Serious eye damage/irritation</b>	Causes serious eye damage
<b>Respiratory or skin sensitization</b>	Data are conclusive but insufficient for classification
<b>Specific target organ toxicity (STOT) – single exposure</b>	May cause respiratory irritation
<b>Specific target organ toxicity (STOT) – repeated exposure</b>	Data are conclusive but insufficient for classification
<b>Carcinogenicity</b>	Data are conclusive but insufficient for classification
<b>Germ cell mutagenicity</b>	Product is or contains a chemical which may cause mutations in the germ cells of humans.
<b>Reproductive toxicity</b>	Data are conclusive but insufficient for classification
<b>Aspiration hazard</b>	Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Ecotoxicity

Hazardous to the Aquatic Environment.

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
<b>Phenol</b>	Desmodesmus subspicatus EC50 187 - 279 mg/L (72 h) Pseudokirchneriella subcapitata EC50 46.42 mg/L (96 h)	Daphnia magna EC50 4.24 - 10.7 mg/L (48 h) Daphnia magna EC50 10.2 - 15.5 mg/L (48 h)	No data available	No data available	logPow1.5
<b>Guanidine isothiocyanate</b>	No data available	No data available	No data available	No data available	No data available
<b>Ammonium thiocyanate</b>	No data available	No data available	No data available	No data available	No data available

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** No information available.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Classified as dangerous in the meaning of transport regulations

<b>UN number</b>	1760
<b>UN proper shipping name</b>	Corrosive liquid, n.o.s. (phenol - guanidine thiocyanate solution)
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II

### Environmental hazards

yes

### Special precautions for user

Not Applicable

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**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not Applicable.

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## SECTION 15: Regulatory information

Component	US TSCA
Phenol 108-95-2 ( 30-60 )	Listed
Guanidine isothiocyanate 593-84-0 ( 15-40 )	Listed
Ammonium thiocyanate 1762-95-4 ( 7-13 )	Listed

**US Federal Regulations****SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>SARA 313 - Threshold Values</u>
Phenol	108-95-2	30-60	1.0
Ammonium thiocyanate	1762-95-4	7-13	1.0

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

This product contains the following HAPs

<u>Component</u>	<u>CAS No.</u>	<u>Weight-%</u>	<u>HAPS data</u>
Phenol 108-95-2 ( 30-60 )	108-95-2	30-60	Present
Ammonium thiocyanate 1762-95-4 ( 7-13 )	1762-95-4	7-13	Present (XCN where X=H or any other group where a formal dissociation may occur. For example KCN or Ca[CN]2)

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**WHMIS Hazard Class**

D1A - Very toxic materials

E - Corrosive material

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

**National Regulations - Brazil**

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u>	<u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u>
Phenol	108-95-2	Not Listed	Not Listed

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Guanidine isothiocyanate	593-84-0	Not Listed	Not Listed
Ammonium thiocyanate	1762-95-4	Not Listed	Not Listed

SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 9  
**Revision date** 08-May-2019

For research use only. Not for use in diagnostic procedures.

**References**

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

"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 SDS 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**