

## Safety Data Sheet

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

#### Identification of the substance or mixture

**Product code** 15596026  
**Product name** TRIZOL 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 for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** 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**



**Health hazards**

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Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute inhalation toxicity - vapor	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

**Physical hazards**

Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

H314 - Causes severe skin burns and eye damage

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

**Precautionary Statements**

**Prevention**

P264 - Wash hands thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

**Response**

P303 + P361 + P533 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Storage**

Not Applicable

**Disposal**

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

**Other hazards**

Not Applicable

**HMIS**

Health	3
Flammability	0
Reactivity	0

## SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EC No.	Weight-%
Thiocyanic acid, compound with guanidine (1:1)	593-84-0	Not applicable	209-812-1	25-40
Phenol	108-95-2	Not applicable	203-632-7	30-60
Ammonium thiocyanate	1762-95-4	Not applicable	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 skin with water. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash off immediately with plenty of water for at least 15 minutes.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately.
<b>Notes to Physician</b>	Treat symptomatically.

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

H314 - Causes severe skin burns and eye damage H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.

## SECTION 5: Firefighting measures

## Extinguishing media

<b>Suitable extinguishing media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical.
<b>Unsuitable extinguishing media</b>	No information available.

**Special hazards arising from the substance or mixture** Not known

<b>Hazardous Combustion Products</b>	No data available.
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**Advice 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  
 Avoid contact with skin, eyes or clothing  
 See section 8 for more information

### Environmental precautions

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

### 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

Ensure adequate ventilation. Use personal protective equipment as required. Always wear recommended Personal Protective Equipment. Avoid contact with eyes, skin and clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. See section 8 for more information.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 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. Not for use in diagnostic procedures.

## SECTION 8: Exposure controls/personal protection

### Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Thiocyanic acid, compound with guanidine (1:1)	None	None	None	None
Phenol	5 ppm 19 mg/m <sup>3</sup>	None	5 ppm	None
Ammonium thiocyanate	None	None	None	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Thiocyanic acid, compound with guanidine (1:1)	None	None	None
Phenol	4 ppm 15 mg/m <sup>3</sup>	None	skin designation
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**

No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	liquid	
<b>Color</b>	No data	
<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>Flammability (solid, gas)</b>	No data	
<b>Lower explosion limit</b>	No data	
<b>Upper explosion limit</b>	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>pH</b>	No data	
<b>Evaporation rate</b>	No data	
<b>Viscosity</b>	No data	
<b>Solubility</b>	No data	
<b>Partition coefficient: n-octanol/water</b>	No data	
<b>Vapor Pressure</b>	No data	
<b>Specific gravity</b>	No data	
<b>Relative density</b>	No data	
<b>Vapor density</b>	No data	
<b>Explosive properties</b>	No data	
<b>Oxidizing properties</b>	No data	
<b>Particle characteristics</b>	No data	

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

<b>Reactivity</b>	None known.
<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	Oral LD50	Dermal LD50	Inhalation LC50
Thiocyanic acid, compound with guanidine (1:1)	593 mg/kg	No data available	No data available
Phenol	= 340 mg/kg (Rat)	= 630 mg/kg(Rabbit)	No data available
Ammonium thiocyanate	= 750 mg/kg (Rat)	No data available	No data available

## Principal Routes of Exposure

**Acute toxicity** Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

**Skin corrosion/irritation** Causes skin burns

**Serious eye damage/irritation** Causes serious eye damage

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
<b>Thiocyanic acid, compound with guanidine (1:1)</b>	No data available	No data available	No data available	No data available	No data available
<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	logPow1.47
<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** Not Applicable.

## 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 or ID number</b>	UN1760
<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

Not Applicable

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**Special precautions for user**

Not Applicable

**Maritime transport in bulk according to IMO instruments**

Not Applicable.

## SECTION 15: Regulatory information

Component	US TSCA
Thiocyanic acid, compound with guanidine (1:1) 593-84-0 ( 25-40 )	Listed
Phenol 108-95-2 ( 30-60 )	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

**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

**US State Regulations**

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
Phenol	Listed	Listed	Listed
Ammonium thiocyanate	Listed	Listed	Listed

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**WHMIS Hazard Class**

E - Corrosive material

D1B - Toxic materials

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.

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## 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>
Thiocyanic acid, compound with guanidine (1:1)	593-84-0	Not Listed	Not Listed
Phenol	108-95-2	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** 20  
**Revision date** 31-Jan-2024

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#### 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>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"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

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**End of Safety Data Sheet**