

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

Revision date 25-Jun-2024
Product code 15596026

Page 1 / 11
Product name TRIZOL REAGENT

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute inhalation toxicity - vapor	Category 4
Skin corrosion/irritation	Category 1 B
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (STOT) – single exposure	Category 2
Germ cell mutagenicity	Germ cell mutagenicity category 2

Physical hazards

Not Hazardous

Environmental hazards

Chronic aquatic hazard	Category 3
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Hazard Statements

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

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
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood

Response

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
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
P330 - Rinse mouth
P314 - Get medical advice/attention if you feel unwell

Storage

Not Applicable

Disposal

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

Other hazards

Not Applicable

HMIS

Health	4 *
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	25-35
Phenol	108-95-2	Not applicable	203-632-7	45-55

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**

Skin contact	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. Immediate medical attention is required.
Eye contact	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. Immediate medical attention is required.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Call a physician or poison control center immediately.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Call a physician or poison control center immediately.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

H302 - Harmful if swallowed H312 - Harmful in contact with skin H332 - Harmful if inhaled H314 - Causes severe skin burns and eye damage 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 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. Immediately call a POISON CENTER or doctor/physician.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media
Unsuitable extinguishing media

Water spray. Carbon dioxide (CO₂). Foam. Dry chemical.
No information available.

Special hazards arising from the substance or mixture Not known

Hazardous Combustion Products

No data available.

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.

SECTION 8: Exposure controls/personal protection

Control parameters

Revision date 25-Jun-2024
Product code 15596026

Page 4 / 11
Product name TRIZOL REAGENT

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 ³	None	5 ppm	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 ³	None	skin designation

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

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

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	Contact with acids or bleach liberates toxic gases. DO NOT ADD acids or bleach to any liquid wastes containing this product.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	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

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 May cause damage to organs through prolonged or repeated exposure

Carcinogenicity Data are conclusive but insufficient for classification

Germ cell mutagenicity Product is or contains a chemical which may cause mutations in the germ cells of humans.

Reproductive toxicity Data are conclusive but insufficient for classification

Aspiration hazard Data are conclusive but insufficient for classification

SECTION 12: Ecological information

Toxicity

Hazardous to the Aquatic Environment.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Thiocyanic acid, compound with guanidine (1:1)	No data available	No data available	No data available	No data available	No data available
Phenol	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

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

UN number or ID number	1760
UN proper shipping name	Corrosive liquid, n.o.s. (Phenol - Guanidine thiocyanate solution)
Transport hazard class(es)	8
Packing group	II

Environmental hazards

Not Applicable

Revision date 25-Jun-2024
Product code 15596026

Page 8 / 11
Product name TRIZOL REAGENT

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 (25-35)	Listed
Phenol 108-95-2 (45-55)	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	45-55	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 (45-55)	108-95-2	45-55	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

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

E - Corrosive material
D1B - Toxic materials
D2A - Very 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.

National Regulations - Brazil

Revision date 25-Jun-2024
Product code 15596026

Page 9 / 11
Product name TRIZOL REAGENT

<u>Chemical Name</u>	<u>CAS No.</u>	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
Thiocyanic acid, compound with guanidine (1:1)	593-84-0	Not Listed	Not Listed
Phenol	108-95-2	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision SDS sections updated.
Revision number 23
Revision date 25-Jun-2024

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>

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 IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet

Revision date 25-Jun-2024
Product code 15596026

Page 11 / 11
Product name TRIZOL REAGENT