

Safety Data Sheet

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

Identification of the substance or mixture

Product code 20490
Product name TCEP HCl, Tris(2-Carboxyethyl) Phosphine Hydrochloride

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

Thermo Fisher Scientific
Pierce Biotechnology
P.O. Box 117
Rockford, IL 61105
United States
1.815.968.0747 or
1.800.874.3723

24 hour Emergency Response for Hazardous Materials Within the USA + Canada: 1-800-424-9300 and +1
[or Dangerous Goods] Incident. Spill, Leak, Fire, 703-527-3887
Exposure, or Accident. Call CHEMTREC Outside the USA + Canada: +1 703-741-5970

Country specific Emergency Number (if available):

CHEMTREC Brazil (Rio De Janeiro) +(55)-2139581449 (português)

Use as laboratory reagent. Scientific research and development.

SECTION 2: Hazards identification

GHS - Classification

Signal Word

DANGER

Hazard pictograms



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Health hazards

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

Precautionary Statements

Prevention

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

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash hands thoroughly after handling

Response

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

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

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

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

P310 - Immediately call a POISON CENTER or doctor/physician

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

Not Applicable

HMIS

Health	4
Flammability	0
Reactivity	0

SECTION 3: Composition/information on ingredients

Component	CAS-No	EINECS-No	Weight %
tris-(2-carboxyethyl)phosphine, hydrochloride 51805-45-9 (60-100%)	51805-45-9	-	60-100%

We recommend handling all chemicals with caution.

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SECTION 4: First aid measures

Description of first aid measures

Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.
Eye contact	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. Get medical attention if symptoms occur.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

H314 - Causes severe skin burns and eye damage

Indication of any immediate medical attention and special treatment needed

If skin irritation occurs: Get medical advice/ attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture Not known.

Advice for fire-fighters Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Use personal protection equipment. See Section 8 for more detail.

Environmental precautions

No special environmental precautions required.

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

Always wear recommended Personal Protective Equipment. See Section 8 for more detail. Do not get in eyes, on skin, or on clothing. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers. Store in accordance with local regulations.

Specific end use(s)

Use as laboratory reagent. Scientific research and development.

SECTION 8: Exposure controls/personal protection

Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
tris-(2-carboxyethyl)phosphine, hydrochloride	None	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 Glove material: Nitrile rubber with thickness (mm) :5 Break through time (hours) :1 Recommended glove type has not been tested for use with product Information is based on professional Knowledge

Eye protection Tight sealing safety goggles

Skin and Body Protection Wear laboratory coat for body protection

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

Environmental exposure controls

No special environmental precautions required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid	
Odor	Mixture has not been tested	
Odor Threshold	Mixture has not been tested	
Melting point / melting range	°C 175 to 179	°F 347 to 354.2
Boiling point / boiling range	°C Mixture has not been tested	°F Mixture has not been tested
Flash point	°C Mixture has not been tested	°F Mixture has not been tested
Autoignition Temperature	°C Mixture has not been tested	°F Mixture has not been tested
Decomposition temperature	°C Mixture has not been tested	°F Mixture has not been tested
Evaporation rate	No data available	
Flammability (solid, gas)	Not Applicable	
Upper explosion limit	Mixture has not been tested	
Lower explosion limit	Mixture has not been tested	
Vapor Pressure	Mixture has not been tested	
Relative density	Mixture has not been tested	
Specific gravity	No data available	
Solubility	Soluble in water	
Partition coefficient: n-octanol/water	No data available	
Viscosity	Mixture has not been tested	
Explosive properties	Mixture has not been tested	
Oxidizing properties	Mixture has not been tested	
Other information	No data 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	None known.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	No known hazardous decomposition products.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
tris-(2-carboxyethyl)phosphine, hydrochloride	No data available	No data available	No data available

Principal Routes of Exposure

Irritation	Conclusive but not sufficient for classification
Corrosivity	Causes severe skin burns and eye damage
Sensitization	Conclusive but not sufficient for classification
STOT - Single Exposure	Conclusive but not sufficient for classification
STOT - Repeated Exposure	Conclusive but not sufficient for classification
Carcinogenicity	Conclusive but not sufficient for classification
Mutagenicity	Conclusive but not sufficient for classification
Reproductive toxicity	Conclusive but not sufficient for classification
Aspiration hazard	Conclusive but not sufficient for classification

SECTION 12: Ecological information

Toxicity

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
tris-(2-carboxyethyl)phosphine, hydrochloride	No data available	No data available	No data available	No data available	No data available

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

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SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

This product is subject to the de minimis exceptions for dangerous goods / hazardous materials in accordance with the following regulations: IATA 2.6.10, ADR 3.5.1.4, and U.S. DOT 49 CFR 173.4b.

UN number	3261
UN proper shipping name	Corrosive solid, acidic, organic, n.o.s. (Tris (2-Carboxyethyl) Phosphine Hydrochloride)
Transport hazard class(es)	8
Packing group	II
Environmental hazards	Not Applicable
Special precautions for user	Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
tris-(2-carboxyethyl)phosphine, hydrochloride 51805-45-9 (60-100%)	-

US Federal Regulations

SARA 313

This product is not regulated by SARA.

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

This product does not contains HAPs.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class

E - Corrosive material



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.

SECTION 16: Other information

Reason for revision SDS sections updated.

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Revision number 4
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Use as laboratory reagent. Scientific research and development.

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 WARRENTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PUPOSE"

End of Safety Data Sheet