

Safety Data Sheet

TCEP Hydrochloride | Cat. No. ASC-8056 | GHS 7th Edition / WHS Regulations 2023 (Australia)

Section 1 — Identification

Product Name	Tris(2-carboxyethyl)phosphine Hydrochloride (TCEP-HCl)
Catalogue No.	ASC-8056
CAS Number	51805-45-9
Chemical Formula	$C_9H_{15}O_6P \cdot HCl$
Recommended Use	Non-thiol reducing agent for research use in biochemistry and molecular biology
Restrictions on Use	For research use only — not for human, veterinary, diagnostic, or therapeutic use
Supplier	AuSaMicS Pty Ltd ABN 56 676 640 467
Address	36/25 Trafalgar Road, Epping, VIC 3076, Australia
Telephone	+61 412 520 598
Email	support@ausamics.com
Emergency Telephone	Poisons Information Centre: 13 11 26 (24 hours, Australia-wide)

Section 2 — Hazard(s) Identification

Classified as a hazardous chemical under the Australian WHS (Hazardous Chemicals) Regulations 2023 and the GHS 7th Edition. This substance is CORROSIVE and causes severe skin burns and eye damage.



GHS Classification	Skin Corrosion Category 1B
Signal Word	Danger
Hazard Statement	H314 — Causes severe skin burns and eye damage
Precautionary Statements — Prevention	P260 — Do not breathe dust/fume/gas/mist/vapours/spray. P280 — Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statements — Response	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. P303+P361+P353 — IF ON SKIN (or hair): remove/take off immediately all contaminated clothing; rinse skin with water/shower. P304+P340 — IF INHALED: remove to fresh air and keep



at rest in a position comfortable for breathing. P337+P313 — If eye irritation persists, get medical advice. P308+P313 — If exposed or concerned, get medical advice.

**Precautionary Statements —
Storage/Disposal**

P405 — Store locked up. P501 — Dispose of contents/container to an authorised hazardous waste collection point.

Section 3 — Composition / Information on Ingredients

Component	% w/w	CAS No.	Classification
Tris(2-carboxyethyl)phosphine hydrochloride	100%	51805-45-9	Skin Corr. 1B, H314

Section 4 — First-Aid Measures

General

Check vital functions. If unconscious, maintain adequate airway and respiration. If breathing has stopped, provide artificial respiration or oxygen. If cardiac arrest occurs, perform resuscitation and seek immediate medical attention.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention — do not delay.

Skin Contact

Remove/take off immediately all contaminated clothing. Rinse skin with water/shower for at least 15 minutes. Seek medical attention.

Inhalation

Remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention if symptoms occur.

Ingestion

Wash out mouth with water. Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician immediately — call the Poisons Information Centre.

Notes to Physician

Treat symptomatically and supportively.

Section 5 — Fire-Fighting Measures

Flammability

Not flammable or combustible

Suitable Extinguishing Media

Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide

Specific Hazards

Hazardous decomposition products may form under fire conditions, including phosphine oxides and hydrogen chloride



Section 6 — Accidental Release Measures

Personal Precautions	Wear appropriate PPE per Section 8. Avoid contact with skin and eyes. Avoid generating dust.
Environmental Precautions	Prevent entry into drains, watercourses, or soil
Containment & Clean-Up	Carefully collect and place in a suitable, labelled container for disposal. Avoid dry sweeping that generates dust.

Section 7 — Handling and Storage

Handling Precautions	Avoid all contact with skin and eyes. Avoid breathing dust. Handle only in a well-ventilated area or fume hood. Wash hands thoroughly after handling.
Storage Conditions	Store at +4°C, tightly sealed, locked up, away from incompatible materials
Incompatibilities	Store away from strong oxidising agents and bases

Section 8 — Exposure Controls / Personal Protection

Engineering Controls	Fume hood or local exhaust ventilation required when weighing or handling this substance
Eye/Face Protection	Chemical safety goggles or face shield — mandatory given corrosive classification
Hand Protection	Chemical-resistant gloves (nitrile or equivalent), inspected for integrity before use
Body Protection	Lab coat and, where risk of splash exists, chemical-resistant apron
Respiratory Protection	P2/P3 particulate respirator when weighing or handling bulk powder

Section 9 — Physical and Chemical Properties

Appearance	White crystalline powder
Formula Weight	286.65 g/mol
Solubility	Freely soluble in water — clear, colourless solution

Section 10 — Stability and Reactivity



Chemical Stability	Stable under recommended storage conditions (+4°C, sealed)
Conditions to Avoid	Contact with strong oxidising agents or bases; moisture ingress
Hazardous Decomposition Products	May include phosphine oxides and hydrogen chloride under fire/extreme conditions

Section 11 — Toxicological Information

Skin Corrosion	Causes severe skin burns (Category 1B)
Eye Damage	Causes serious eye damage
Acute Toxicity	Not classified for acute oral/dermal/inhalation toxicity based on available data
Carcinogenicity / Mutagenicity / Reproductive Toxicity	Not classified

Section 12 — Ecological Information

Ecotoxicity	Not extensively tested; avoid release to the environment
Persistence and Degradability	No data available

Section 13 — Disposal Considerations

Disposal Method	Dispose of as hazardous chemical waste via a licensed waste contractor in accordance with EPA (Victoria) requirements. Do not dispose via general laboratory waste or sewer.
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Section 14 — Transport Information

Proper Shipping Name	Corrosive solid, acidic, organic, n.o.s. (Tris(2-carboxyethyl) phosphine hydrochloride)
Transport Hazard Class	Class 8 (Corrosive)
Packing Group	II
Marine Pollutant	No



This product IS classified as Dangerous Goods for transport (Class 8, Packing Group II) — unlike most other AuSaMicS products, this requires dangerous goods-compliant packaging, labelling, and documentation for shipment.

Section 15 — Regulatory Information

Australian Regulations	Classified as a hazardous chemical under WHS (Hazardous Chemicals) Regulations 2023. Not registered on the ARTG — research use only.
International Inventories	EC number 629-759-1; listed on relevant chemical inventories where applicable

Section 16 — Other Information

Preparation Date	June 2024
Revision	Rev. 1.0
Key Data Sources	Cayman Chemical SDS (CAS 51805-45-9); G-Biosciences SDS; Gold Biotechnology SDS; supplier Certificate of Analysis (Discovery Fine Chemicals Ltd, Batch 79948)

Disclaimer

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