

# Ceftriaxone Disodium Salt Hemi Heptahydrate

SDS-AS-2007 | CAS: 104376-79-6 | Issued: March 2026

**⚠ WARNING: Contains  $\beta$ -Lactam antibiotic. May cause sensitisation. For Research Use Only.**

## SECTION 1 — IDENTIFICATION

Product Name	Ceftriaxone Disodium Salt Hemi Heptahydrate
Catalog Number	AS-2007
CAS Number	104376-79-6
Molecular Formula	C <sub>18</sub> H <sub>16</sub> N <sub>8</sub> Na <sub>2</sub> O <sub>7</sub> S <sub>3</sub> · 3.5H <sub>2</sub> O
Molecular Weight	661.60 g/mol
Intended Use	Research reagent — for laboratory use only by trained personnel
Uses Advised Against	Human/veterinary therapeutic use; food/feed applications; consumer products
Supplier	AuSaMicS Pty Ltd   31 Longview CT, Thomastown VIC 3074, Australia
ABN	56 676 640 467
Phone	+61 412 520 598
Email / Web	support@ausamics.com.au   www.ausamics.com.au
Emergency (AU)	Poisons Information Centre: 13 11 26 (24 hours)

## SECTION 2 — HAZARD IDENTIFICATION

GHS Classification	Not classified as hazardous under GHS/WHs Regulations (Australia)
Signal Word	WARNING (precautionary — $\beta$ -lactam sensitiser)
Hazard Statements	H317: May cause an allergic skin reaction (sensitisation). H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Precautionary Statements	P261: Avoid breathing dust. P272: Contaminated work clothing should not be allowed out of the workplace. P280: Wear protective gloves/eye protection/face protection.
Other Hazards	No additional hazards known under standard laboratory conditions

## SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	MW (g/mol)	Concentration
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Ceftriaxone Disodium Salt Hemi Heptahydrate	104376-79-6	661.60	≥ 98% (HPLC)
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## SECTION 4 — FIRST-AID MEASURES

<b>Inhalation</b>	Move to fresh air immediately. If breathing is difficult, administer oxygen. Seek medical attention if symptoms persist.
<b>Skin Contact</b>	Remove contaminated clothing. Wash affected area thoroughly with soap and water for at least 15 min. Seek medical attention if irritation persists.
<b>Eye Contact</b>	Immediately flush eyes with large amounts of water for at least 15 min, lifting eyelids to ensure thorough rinsing. Seek immediate medical attention.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth with water. Seek immediate medical attention. Show this SDS to the attending physician.
<b>Notes to Physician</b>	β-Lactam antibiotic — monitor for anaphylactic reactions, particularly in penicillin-sensitive individuals. Treat symptomatically.

## SECTION 5 — FIRE-FIGHTING MEASURES

<b>Flammability</b>	Not flammable under normal conditions
<b>Suitable Extinguishing Media</b>	Use extinguishing media appropriate for surrounding fire: CO2, dry powder, water spray, foam
<b>Combustion Products</b>	Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, sodium oxides
<b>Special Hazards</b>	Thermal decomposition above 155 °C may release toxic fumes
<b>Protective Equipment</b>	Wear full protective clothing and self-contained breathing apparatus (SCBA) when fighting fire involving this material

## SECTION 6 — ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Wear appropriate PPE (gloves, lab coat, safety glasses, dust mask). Avoid generating dust.
<b>Environmental Precautions</b>	Prevent entry into drains, waterways, or soil. Antibiotic contamination of waterways is an environmental hazard.
<b>Containment Methods</b>	Sweep or vacuum up spilled material carefully. Place in a sealed, labelled waste container.
<b>Cleaning Methods</b>	Clean spill area with water. Decontaminate surfaces with 10% bleach solution followed by water rinse.
<b>Disposal of Collected Material</b>	Autoclave (121 °C, 20 min) to inactivate antibiotic activity, then dispose per local regulations.

## SECTION 7 — HANDLING AND STORAGE

<b>Safe Handling</b>	Handle in a well-ventilated area or biological safety cabinet. Minimise dust generation. Avoid contact with skin, eyes, and clothing.
<b>Hygiene</b>	Wash hands thoroughly after handling. Do not eat, drink, or smoke in work area.
<b>Storage Conditions</b>	Store at 2–8 °C in a tightly sealed original container, protected from light and moisture.
<b>Incompatibilities</b>	Strong oxidising agents; calcium-containing solutions (precipitation risk); strong acids and alkalis
<b>Shelf Life</b>	24 months from manufacture date when stored correctly
<b>Special Sensitivity</b>	Hygroscopic — exposure to moisture causes degradation. Keep container tightly sealed when not in use.

## SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Occupational Exposure Limits</b>	No OEL established under Safe Work Australia or ACGIH TLV list. Apply ALARP principle.
<b>Engineering Controls</b>	Use fume hood or biological safety cabinet. Ensure adequate ventilation. Eye wash station nearby.
<b>Respiratory Protection</b>	P2/FFP2 dust mask if dust generation is likely; SCBA for emergency situations
<b>Hand Protection</b>	Nitrile gloves (0.2 mm minimum thickness). Change gloves immediately if torn or contaminated.
<b>Eye/Face Protection</b>	Safety glasses or chemical splash goggles
<b>Body Protection</b>	Laboratory coat, closed-toe shoes. Remove contaminated clothing before leaving work area.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	White to slightly yellowish crystalline powder
<b>Odour</b>	Odourless
<b>pH (1% solution)</b>	6.0 – 8.0
<b>Melting Point / Range</b>	Decomposes above 155 °C
<b>Solubility in Water</b>	Freely soluble (approx. 400 mg/mL)
<b>Solubility (other)</b>	Slightly soluble in methanol; practically insoluble in ethanol, acetone
<b>Vapour Pressure</b>	Negligible at 20 °C
<b>Relative Density</b>	Not determined (powder)

<b>Hygroscopicity</b>	Hygroscopic
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**SECTION 10 — STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable under recommended storage conditions (2–8 °C, dry, protected from light)
<b>Conditions to Avoid</b>	Heat above 155 °C; moisture; direct sunlight; UV radiation
<b>Materials to Avoid</b>	Strong oxidising agents; strong acids/alkalis; calcium solutions
<b>Hazardous Decomposition Products</b>	CO, CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub> , sodium oxides
<b>Possibility of Hazardous Reactions</b>	None known under normal storage and use conditions

**SECTION 11 — TOXICOLOGICAL INFORMATION**

<b>Acute Toxicity (oral, rat)</b>	LD50 > 2000 mg/kg (low acute oral toxicity)
<b>Skin Sensitisation</b>	Known sensitiser — may cause allergic contact dermatitis, particularly in β-lactam-sensitive individuals
<b>Respiratory Sensitisation</b>	Inhalation of dust may provoke asthmatic reactions in sensitised individuals
<b>Carcinogenicity</b>	Not listed as carcinogen by IARC, NTP, or ACGIH
<b>Reproductive Toxicity</b>	No data available for research-grade material
<b>Chronic Effects</b>	Repeated occupational exposure may increase sensitisation risk

**SECTION 12 — ECOLOGICAL INFORMATION**

<b>Aquatic Toxicity</b>	Ceftriaxone is an active antibiotic — even sub-inhibitory concentrations may disrupt environmental microbial communities
<b>Persistence / Degradability</b>	Moderately biodegradable under aerobic conditions. Hydrolytically unstable at extreme pH.
<b>Bioaccumulation</b>	Not expected to bioaccumulate (low log K <sub>ow</sub> )
<b>Soil Mobility</b>	Moderate — may adsorb to soil particles
<b>Environmental Precaution</b>	Do NOT dispose via drain or sewage system. Inactivate before disposal.

**SECTION 13 — DISPOSAL CONSIDERATIONS**

<b>Preferred Disposal Method</b>	Autoclave at 121 °C for ≥20 min to inactivate antibiotic activity prior to disposal
<b>Regulatory Compliance</b>	Dispose in accordance with Australian Environment Protection Authority (EPA) requirements and local council regulations
<b>Contaminated Packaging</b>	Empty containers should be decontaminated by autoclaving or chemical inactivation (10% bleach) before disposal
<b>Do NOT</b>	Dispose via normal rubbish, sewage, or waterways without prior inactivation

**SECTION 14 — TRANSPORT INFORMATION**

<b>UN Number</b>	Not regulated as a Dangerous Good
<b>Proper Shipping Name</b>	Not applicable
<b>ADG Hazard Class</b>	Not classified under ADG Code (Australia)
<b>Packing Group</b>	Not applicable
<b>IATA / IMDG</b>	Not regulated
<b>Special Precautions</b>	Keep dry and cool during transit. Protect from direct sunlight.

**SECTION 15 — REGULATORY INFORMATION**

<b>SUSMP (Poisons Standard)</b>	Schedule 4 — Prescription Only Medicine (pharmaceutical use); supplied as research reagent only
<b>WHS Regulations (AU)</b>	Not classified as a hazardous substance under Safe Work Australia criteria
<b>NICNAS / AICIS</b>	Listed on the Australian Industrial Chemicals Register
<b>EPA Compliance</b>	Users are responsible for complying with applicable state/territory EPA waste disposal regulations

**SECTION 16 — OTHER INFORMATION**

<b>Document Reference</b>	SDS-AS-2007
<b>Revision</b>	Rev. 1.0 — March 2026
<b>Prepared By</b>	AuSaMicS Pty Ltd — Quality & Regulatory Affairs
<b>Next Review Date</b>	March 2028 (or upon formulation change)
<b>Key Abbreviations</b>	ACGIH: American Conference of Governmental Industrial Hygienists   ADG: Australian Dangerous Goods   AICIS: Australian Industrial Chemicals Introduction Scheme   ALARP: As Low As Reasonably Practicable   GHS: Globally Harmonised System   HPLC: High Performance Liquid Chromatography   OEL: Occupational Exposure

Limit | PPE: Personal Protective Equipment | SCBA: Self-Contained Breathing Apparatus | SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons | WHS: Work Health and Safety

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