

SAFETY DATA SHEET

Carbenicillin Disodium Salt

CAS: 4800-94-6 | Catalog: ASA-2049 | Prepared in accordance with GHS/SDS requirements
Issue Date: 2025 | Revision: 1.0 | Supersedes: All previous versions

SECTION 1: IDENTIFICATION

Product Name	Carbenicillin Disodium Salt
Catalog Number	ASA-2049
CAS Number	4800-94-6
Synonyms	Carbenicillin disodium; α -Carboxybenzylpenicillin disodium; Carbenicillin sodium
Intended Use	Laboratory research use only — antibiotic selection agent
Supplier	AuSaMicS Pty Ltd, Australia
Emergency Contact	Poisons Information Centre: 13 11 26 (Australia)
Website	ausamics.com.au

SECTION 2: HAZARD IDENTIFICATION

GHS Classification

Acute Toxicity (Oral): Category 4 (Harmful if swallowed)

Skin Sensitisation: Category 1 (May cause an allergic skin reaction)

Respiratory Sensitisation: Category 1 (May cause allergy or asthma symptoms if inhaled)

Signal Word: WARNING

Hazard Statements:

- H302 — Harmful if swallowed
- H317 — May cause an allergic skin reaction
- H334 — May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements:

- P260 — Do not breathe dust/fume/gas/mist/vapours/spray
- P272 — Contaminated work clothing must not be allowed out of the workplace
- P280 — Wear protective gloves/eye protection
- P301+P312 — IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell
- P342+P311 — If experiencing respiratory symptoms: Call a POISON CENTRE or doctor
- P501 — Dispose of contents/container in accordance with local regulations

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No.	Concentration	EC No.
Carbenicillin Disodium Salt	4800-94-6	≥ 98.0%	225-363-5

SECTION 4: FIRST AID MEASURES

Route	First Aid Action
Eye Contact	Rinse immediately with plenty of water for at least 15 minutes, holding eyelids open. Remove contact lenses if present. Seek medical attention if irritation persists.
Skin Contact	Wash thoroughly with soap and water for at least 15 minutes. Remove contaminated clothing. If skin reaction occurs, seek medical advice. Known or suspected penicillin allergy — seek immediate medical attention.
Inhalation	Move to fresh air immediately. If breathing difficulties occur, seek medical attention promptly. If respiratory sensitisation suspected, seek emergency medical assistance.
Ingestion	Do NOT induce vomiting. Rinse mouth with water. Seek medical advice immediately. Contact Poisons Information Centre: 13 11 26 (Australia). Known penicillin allergy — medical emergency.
Note to Physician	Beta-lactam antibiotic — treat hypersensitivity reactions according to standard protocols. Anaphylaxis possible in sensitised individuals.

SECTION 5: FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Water spray, foam, dry powder, CO₂
- Not classified as flammable under standard conditions
- Combustion may produce irritating/toxic fumes including nitrogen and sulfur oxides
- Fire-fighters should wear self-contained breathing apparatus and full protective clothing

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Personal precautions: Wear appropriate PPE (gloves, dust mask, eye protection). Avoid generating dust.
- Environmental precautions: Prevent entry into drains and waterways. Do not flush to sewer.
- Containment: Sweep up carefully and place in a closed container for disposal. Avoid dispersal of dust.
- Clean-up: Wash contaminated area with water. Dispose of waste in accordance with local regulations.
- Antibiotic contamination of waterways must be avoided to minimise resistance selection in environmental bacteria.

SECTION 7: HANDLING AND STORAGE

Aspect	Guidelines
Handling Precautions	Use in a well-ventilated area. Avoid dust generation. Do not eat, drink, or smoke when handling. Wash hands thoroughly after handling.
Storage Conditions	Store at -20°C (long-term) or 2–8°C (short-term, up to 2 weeks). Keep in tightly sealed original container.
Protection	Protect from moisture, heat, and direct light. Do not store near food or beverages.
Stock Solutions	Store in aliquots at -20°C. Avoid repeated freeze-thaw cycles. Discard any solution showing cloudiness or unusual colour.

Incompatibilities	Strong oxidising agents; strong acids and bases; beta-lactamase-containing environments (will inactivate product).
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SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

PPE Type	Specification
Respiratory Protection	Dust/particle respirator (P2/N95 or better) when handling powder in open conditions. General ventilation is sufficient for brief, contained use.
Hand Protection	Chemical-resistant gloves (nitrile or neoprene recommended). Change gloves immediately if contaminated.
Eye/Face Protection	Safety glasses or chemical splash goggles when handling powder or concentrated solutions.
Skin/Body Protection	Laboratory coat and closed-toe footwear. Full skin coverage recommended.
Engineering Controls	Handle in a well-ventilated laboratory. Use a biological safety cabinet or fume hood when handling larger quantities of powder.
Occupational Exposure Limits	No specific OEL established. Apply general good laboratory practice principles.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical Form	Solid (crystalline powder)
Colour	White to off-white
Odour	Odourless to faint characteristic odour
Molecular Weight	422.36 g/mol
Solubility in Water	Freely soluble (> 50 mg/mL)
pH (1% solution)	6.0 – 7.0
Melting Point	Decomposes above approx. 200°C
Flammability	Not classified as flammable
Flash Point	Not applicable (solid)
Vapour Pressure	Negligible at ambient temperature

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** Stable under recommended storage conditions (–20°C, dry, sealed)
- **Conditions to avoid:** High temperatures, moisture, UV light, acidic or alkaline pH extremes
- **Incompatible materials:** Strong acids, strong bases, strong oxidising agents
- **Hazardous decomposition products:** Nitrogen oxides, sulfur oxides, carbon oxides (upon combustion)
- **Hazardous polymerisation:** Will not occur
- **Hydrolysis:** Susceptible to hydrolysis in aqueous solution, especially at elevated temperature or extreme pH

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Oral Toxicity (rat)	LD50 > 5000 mg/kg (low acute oral toxicity)
Skin Sensitisation	Known sensitiser — penicillin-class allergy may cause cross-reactions. Risk of anaphylaxis in sensitised individuals.
Respiratory Sensitisation	Inhalation of dust may trigger allergic/asthmatic reactions in sensitised individuals
Carcinogenicity	Not classified. Not listed by IARC, NTP, or ACGIH.
Reproductive Toxicity	No data available. Handle with appropriate precaution during pregnancy.
Mutagenicity	Not classified as mutagenic based on available data
Target Organs	Skin, respiratory tract (primarily sensitisation risk)

SECTION 12: ECOLOGICAL INFORMATION

- Environmental hazard: Antibiotic substances may contribute to antimicrobial resistance (AMR) in environmental bacteria — avoid environmental release
- Aquatic toxicity: Avoid discharge to waterways, stormwater drains, or soil
- Persistence/degradability: Hydrolyses in aqueous environment; degradation rate depends on pH and temperature
- Bioaccumulation: Low bioaccumulation potential (low log P for ionised form)
- Mobility in soil: May leach — prevent soil contamination

SECTION 13: DISPOSAL CONSIDERATIONS

- Unused product: Dispose as chemical waste through a licensed waste contractor in accordance with local and national regulations
- Contaminated packaging: Empty containers should be decontaminated before disposal
- Do NOT discharge antibiotic waste to sewer or waterways
- Inactivation prior to disposal: Aqueous solutions may be heat-inactivated (autoclave) before drain disposal — verify local regulations
- Contact local authorities or a licensed waste disposal company for guidance on antibiotic waste

SECTION 14: TRANSPORT INFORMATION

UN Number	Not classified as dangerous goods (ADG/IATA/IMDG)
Packing Group	Not applicable
Dangerous Goods Class	Not classified
Special Precautions	Keep dry during transport. Store upright. Avoid temperature extremes.
Environmental Hazards	Not classified as marine pollutant — exercise standard environmental precautions

SECTION 15: REGULATORY INFORMATION

Research Use Only — Not for Therapeutic Use

Australia (AICIS): Antibiotic compounds are subject to regulatory oversight. Buyers must comply with all applicable Therapeutic Goods Administration (TGA), AICIS, and state/territory regulations.

International: Customers must verify import eligibility and comply with local regulatory requirements. Not for resale as a therapeutic agent.

This product does not contain any SVHC (Substances of Very High Concern) under REACH at concentrations > 0.1% w/w.

SECTION 16: OTHER INFORMATION

Prepared by	AuSaMicS Pty Ltd — Quality & Regulatory Affairs
Issue Date	2025
Revision	Version 1.0
Disclaimer	Information in this SDS is based on currently available data and is believed to be accurate. It is provided in good faith and without warranty. Users are responsible for determining suitability for their specific application.