

Piprazon 1.125 Injection

Piperacillin (1000mg) + Tazobactam (125mg) Injection

Composition:

Each vial contains:

- **Piperacillin Sodium** – 1000 mg (equivalent to 1g Piperacillin)
- **Tazobactam Sodium** – 125 mg (equivalent to 0.125g Tazobactam)

Excipients: (To be listed as per formulation)

Pharmacological Classification:

- **Piperacillin:** Extended-spectrum β -lactam (Penicillin antibiotic)
- **Tazobactam:** Beta-lactamase inhibitor

Mechanism of Action:

- **Piperacillin:** Inhibits bacterial cell wall synthesis by binding to penicillin-binding proteins (PBPs), leading to bacterial lysis.
- **Tazobactam:** Inhibits beta-lactamase enzymes produced by resistant bacteria, thereby protecting Piperacillin from degradation.

This combination is **bactericidal** and **effective against Gram-positive, Gram-negative, and anaerobic bacteria**.

Indications & Uses:

Piperacillin + Tazobactam is used for the treatment of moderate to severe infections caused by susceptible organisms, including:

1. Respiratory Tract Infections:

- Community-acquired pneumonia (CAP)
- Hospital-acquired pneumonia (HAP)

- Ventilator-associated pneumonia (VAP)

2. Urinary Tract Infections (UTIs):

- Complicated and uncomplicated UTIs
- Pyelonephritis

3. Intra-Abdominal Infections:

- Peritonitis
- Appendicitis
- Infected intra-abdominal abscesses

4. Skin & Soft Tissue Infections:

- Cellulitis
- Diabetic foot infections

5. Gynecological Infections:

- Pelvic inflammatory disease (PID)
- Postpartum endometritis

6. Septicemia & Bloodstream Infections:

- Bacteremia caused by *Pseudomonas aeruginosa* and other Gram-negative bacteria

7. Bone & Joint Infections:

- Osteomyelitis
 - Septic arthritis
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Dosage & Administration:

- **Mild to Moderate Infections:** 2.25g (Piperacillin 2000mg + Tazobactam 250mg) every **6–8 hours** IV
- **Severe Infections:** 4.5g (Piperacillin 4000mg + Tazobactam 500mg) every **6–8 hours** IV
- **Pediatric Dose:**
 - Children ≥ 2 months: 100 mg/kg Piperacillin + 12.5 mg/kg Tazobactam every **8 hours** IV

- Neonates: Limited data available, use with caution under medical supervision

Method of Administration:

- Reconstitute with **sterile water for injection**
- Administer **slow IV infusion over 30 minutes**
- Do not administer as an IV bolus or IM injection

Renal Impairment Dosage Adjustment:

- **Creatinine Clearance (CrCl) 20–40 mL/min:** Reduce dose to **2.25g every 8 hours**
- **CrCl <20 mL/min:** Reduce dose to **2.25g every 12 hours**
- **Patients on Hemodialysis:** 2.25g every **12 hours**, administer an **extra dose after dialysis**

Contraindications:

- Known hypersensitivity to **penicillins, cephalosporins, or beta-lactam antibiotics**
- Severe renal failure (adjust dosage accordingly)
- History of **drug-induced thrombocytopenia**

Warnings & Precautions:

- **Serious Hypersensitivity Reactions:** Includes anaphylaxis, angioedema, and severe skin reactions. Monitor patients with a history of allergies.
- **Clostridium difficile-associated Diarrhea:** May occur due to antibiotic use. Discontinue if severe diarrhea develops.
- **Hepatic Impairment:** Monitor liver function tests during prolonged therapy.
- **Renal Toxicity:** Dose adjustments needed in renal impairment. Monitor kidney function.
- **Superinfections:** Long-term use may lead to secondary fungal or bacterial infections.

Drug Interactions:

- **Aminoglycosides (Gentamicin, Amikacin):** Inactivation may occur when mixed in the same IV line. Always administer separately.

- **Probenecid:** Increases Piperacillin plasma concentration, prolonging its effect.
- **Anticoagulants (Warfarin, Heparin):** May increase the risk of bleeding. Monitor PT/INR closely.
- **Methotrexate:** Piperacillin may reduce methotrexate clearance, increasing toxicity.

Adverse Effects:

Common Side Effects:

- Diarrhea
- Nausea, vomiting
- Injection site reactions
- Headache
- Rash

Serious Side Effects:

- **Severe hypersensitivity reactions** (anaphylaxis, angioedema)
- **Clostridium difficile infection** (severe diarrhea)
- **Thrombocytopenia, neutropenia, or leukopenia** (monitor CBC in prolonged therapy)
- **Elevated liver enzymes (AST, ALT)**
- **Acute kidney injury** (especially in critically ill patients)

Storage Conditions:

- Store in a **cool, dry place** below **25°C**
- Protect from **light and moisture**
- **Reconstituted solution** should be used immediately or within **24 hours if refrigerated**

Packaging & Availability:

- **Single-use vial** for IV infusion
- Available in different strengths:
 - **2.25g** (Piperacillin 2000mg + Tazobactam 250mg)
 - **4.5g** (Piperacillin 4000mg + Tazobactam 500mg)

Conclusion:

Piperacillin + Tazobactam is a **potent broad-spectrum antibiotic** widely used for **serious bacterial infections** in hospitals. It is particularly effective against ***Pseudomonas aeruginosa***, Enterobacteriaceae, and anaerobes. Due to its potential for **renal toxicity, hypersensitivity, and superinfections**, it should be used under strict **medical supervision** with appropriate **renal and hepatic monitoring**.

Disclaimer:

This medication should be used under medical supervision. Consult your healthcare provider for appropriate use, especially if symptoms persist or worsen.

Manufactured in India for:



Cafoli Lifecare Pvt. Ltd.

(An ISO 9001: 2015 Certified Co.)

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