

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Piperacillin/Tazobactam Teva 2 g/250 mg Powder for Solution for Infusion

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each vial contains piperacillin (as sodium salt) equivalent to 2 g and tazobactam (as sodium salt) equivalent to 0.25 g.

Each vial of Piperacillin/Tazobactam Teva 2 g/250 mg contains 4.7 mmol (108 mg) of sodium.

This medicinal product contains no excipients.

3 PHARMACEUTICAL FORM

Powder for solution for infusion.

White or off-white powder

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

Piperacillin/Tazobactam Teva is indicated for the treatment of the following infections in adults and children over 2 years of age (see sections 4.2 and 5.1):

Adults and adolescents

- Severe pneumonia including hospital-acquired and ventilator-associated pneumonia
- Complicated urinary tract infections (including pyelonephritis)
- Complicated intra-abdominal infections
- Complicated skin and soft tissue infections (including diabetic foot infections)

Treatment of patients with bacteraemia that occurs in association with, or is suspected to be associated with, any of the infections listed above.

Piperacillin/Tazobactam Teva may be used in the management of neutropenic patients with fever suspected to be due to a bacterial infection.

Children 2 to 12 years of age

- Complicated intra-abdominal infections

Piperacillin/Tazobactam Teva may be used in the management of neutropenic children with fever suspected to be due to a bacterial infection.

Consideration should be given to official guidance on the appropriate use of antibacterial agents.

4.2 Posology and method of administration

Posology

The dose and frequency of Piperacillin/Tazobactam Teva depends on the severity and localisation of the infection and expected pathogens.

*Adult and adolescent patients*Infections

The usual dose is 4 g piperacillin / 500 mg tazobactam given every 8 hours.

For nosocomial pneumonia and bacterial infections in neutropenic patients, the recommended dose is 4 g piperacillin / 500 mg tazobactam administered every 6 hours. This regimen may also be applicable to treat patients with other indicated infections when particularly severe.

The following table summarises the treatment frequency and the recommended dose for adult and adolescent patients by indication or condition:

Treatment frequency	Piperacillin/Tazobactam Teva 4 g/500 mg
Every 6 hours	Severe pneumonia
	Neutropenic adults with fever suspected to be due to a bacterial infection
Every 8 hours	Complicated urinary tract infections (including pyelonephritis)
	Complicated intra-abdominal infections
	Skin and soft tissue infections (including diabetic foot infections)

Renal impairment

The intravenous dose should be adjusted to the degree of actual renal impairment as follows (each patient must be monitored closely for signs of substance toxicity; medicinal product dose and interval should be adjusted accordingly):

Creatinine clearance (ml/min)	Piperacillin/Tazobactam Teva (recommended dose)
> 40	No dose adjustment necessary
20-40	Maximum dose suggested: 4 g/ 500 mg every 8 hours
< 20	Maximum dose suggested: 4 g/ 500 mg every 12 hours

For patients on haemodialysis, one additional dose of piperacillin/ tazobactam 2 g/250 mg should be administered following each dialysis period, because haemodialysis removes 30%-50% of piperacillin in 4 hours.

Hepatic impairment

No dose adjustment is necessary (see section 5.2).

Dose in elderly patients

No dose adjustment is required for the elderly with normal renal function or creatinine clearance values above 40 ml/min.

*Paediatric population (2 to 12 years of age)*Infections

The following table summarises the treatment frequency and the dose per body weight for paediatric patients 2-12 years of age by indication or condition:

Dose per weight and treatment frequency	Indication / condition
80 mg Piperacillin / 10 mg Tazobactam per kg body weight / every 6 hours	Neutropenic children with fever suspected to be due to bacterial infections*
100 mg Piperacillin / 12.5 mg Tazobactam per kg body weight / every 8 hours	Complicated intra-abdominal infections*

* Not to exceed the maximum 4 g / 500 mg per dose over 30 minutes.

Renal impairment

The intravenous dose should be adjusted to the degree of actual renal impairment as follows (each patient must be monitored closely for signs of substance toxicity; medicinal product dose and interval should be adjusted accordingly):

Creatinine clearance (ml/min)	Piperacillin/Tazobactam Teva (recommended dose)
> 50	No adjustment needed.
≤ 50	70 mg piperacillin / 8.75 mg tazobactam / kg every 8 hours

For children on haemodialysis, one additional dose of 40 mg piperacillin / 5 mg tazobactam / kg should be administered following each dialysis period.

Use in children aged below 2 years

The safety and efficacy of Piperacillin/Tazobactam Teva in children 0-2 years of age has not been established.

No data from controlled clinical studies are available.

Treatment duration

The usual duration of treatment for most indications is in the range of 5-14 days. However, the duration of treatment should be guided by the severity of the infection, the pathogen(s) and the patient's clinical and bacteriological progress.

Route of administration

Piperacillin/Tazobactam Teva 2 g/250 mg is administered by intravenous infusion (over 30 minutes).

For reconstitution instructions, see section 6.6.

4.3 Contraindications

Hypersensitivity to the active substances, any other penicillin-antibacterial agent or to any of the excipients.

History of acute severe allergic reaction to any other beta-lactam active substances (e.g. cephalosporin, monobactam or carbapenem).

4.4 Special warnings and precautions for use

The selection of piperacillin / tazobactam to treat an individual patient should take into account the appropriateness of using a broad-spectrum semi-synthetic penicillin based on factors such as the severity of the infection and the prevalence of resistance to other suitable antibacterial agents.

Before initiating therapy with Piperacillin/ Tazobactam Teva, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, other beta-lactam agents (e.g. cephalosporin, monobactam or carbapenem) and other allergens. Serious and occasionally fatal hypersensitivity (anaphylactic/anaphylactoid [including shock]) reactions have been reported in patients receiving therapy with penicillins, including piperacillin / tazobactam. These reactions are more likely to occur in persons with a history of sensitivity to multiple allergens. Serious hypersensitivity reactions require the discontinuation of the antibiotic, and may require administration of epinephrine and other emergency measures.

Antibiotic-induced pseudomembranous colitis may be manifested by severe, persistent diarrhoea which may be life-threatening. The onset of pseudomembranous colitis symptoms may occur during or after antibacterial treatment. In these cases Piperacillin/ Tazobactam Teva, should be discontinued.

Therapy with Piperacillin/ Tazobactam Teva may result in the emergence of resistant organisms, which might cause super-infections.

Bleeding manifestations have occurred in some patients receiving beta-lactam antibiotics. These reactions sometimes have been associated with abnormalities of coagulation tests, such as clotting time, platelet aggregation and prothrombin time, and are more likely to occur in patients with renal failure. If bleeding manifestations occur, the antibiotic should be discontinued and appropriate therapy instituted.

Leukopenia and neutropenia may occur, especially during prolonged therapy; therefore, periodic assessment of haematopoietic function should be performed.

As with treatment with other penicillins, neurological complications in the form of convulsions may occur when high doses are administered, especially in patients with impaired renal function.

Each vial of Piperacillin/Tazobactam Teva 2 g/250 mg contains 4.7 mmol (108 mg) of sodium and Piperacillin/Tazobactam Teva 4 g/500 mg contains 9.4 mmol (216 mg) of sodium. This should be taken into consideration for patients who are on a controlled sodium diet.

Hypokalaemia may occur in patients with low potassium reserves or those receiving concomitant medications that may lower potassium levels; periodic electrolyte determinations may be advisable in such patients.

4.5 Interaction with other medicinal products and other forms of interaction

Non-depolarising muscle relaxants

Piperacillin when used concomitantly with vecuronium has been implicated in the prolongation of the neuromuscular blockade of vecuronium. Due to their similar mechanisms of action, it is expected that the neuromuscular blockade produced by any of the non-depolarising muscle relaxants could be prolonged in the presence of piperacillin.

Oral anticoagulants

During simultaneous administration of heparin, oral anticoagulants and other substances that may affect the blood coagulation system including thrombocyte function, appropriate coagulation tests should be performed more frequently and monitored regularly.

Methotrexate

Piperacillin may reduce the excretion of methotrexate; therefore, serum levels of methotrexate should be monitored in patients to avoid substance toxicity.

Probenecid

As with other penicillins, concurrent administration of probenecid and piperacillin / tazobactam produces a longer half-life and lower renal clearance for both piperacillin and tazobactam; however, peak plasma concentrations of either substances are unaffected.

Aminoglycosides

Piperacillin, either alone or with tazobactam, did not significantly alter the pharmacokinetics of tobramycin in subjects with normal renal function and with mild or moderate renal impairment. The pharmacokinetics of piperacillin, tazobactam, and the M1 metabolite were also not significantly altered by tobramycin administration.

The inactivation of tobramycin and gentamicin by piperacillin has been demonstrated in patients with severe renal impairment.

For information related to the administration of piperacillin / tazobactam with aminoglycosides please refer to sections 6.2 and 6.6.

Vancomycin

No pharmacokinetic interactions have been noted between piperacillin / tazobactam and vancomycin.

Effects on laboratory tests

Non-enzymatic methods of measuring urinary glucose may lead to false-positive results, as with other penicillins. Therefore, enzymatic urinary glucose measurement is required under Piperacillin/ tazobactam therapy.

A number of chemical urine protein measurement methods may lead to false-positive results. Protein measurement with dip sticks is not affected.

The direct Coombs test may be positive.

Bio-Rad Laboratories *Platelia Aspergillus* EIA tests may lead to false-positive results for patients receiving Piperacillin/tazobactam. Cross-reactions with non-*Aspergillus* polysaccharides and polyfuranoses with Bio-Rad Laboratories *Platelia Aspergillus* EIA test have been reported.

Positive test results for the assays listed above in patients receiving Piperacillin/tazobactam should be confirmed by other diagnostic methods.

4.6 Fertility, pregnancy and lactationPregnancy

There are no or a limited amount of data from the use of Piperacillin/tazobactam in pregnant women.

Studies in animals have shown developmental toxicity, but no evidence of teratogenicity, at doses that are maternally toxic (see section 5.3).

Piperacillin and tazobactam cross the placenta. Piperacillin/tazobactam should only be used during pregnancy if clearly indicated, i.e. only if the expected benefit outweighs the possible risks to the pregnant woman and foetus.

Breast-feeding

Piperacillin is excreted in low concentrations in human milk; tazobactam concentrations in human milk have not been studied. Women who are breast-feeding should be treated only if the expected benefit outweighs the possible risks to the woman and child.

Fertility

A fertility study in rats showed no effect on fertility and mating after intraperitoneal administration of tazobactam or the combination piperacillin / tazobactam (see section 5.3).

4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed.

4.8 Undesirable effects

The most commonly reported adverse reactions (occurring in 1 to 10 patients in 100) are diarrhoea, nausea, vomiting, and rash.

In the following table, adverse reactions are listed by system organ class and MedDRA-preferred term. Within each frequency grouping, undesirable effects are presented in order of decreasing seriousness.

System Organ Class	Common ≥ 1/100 to < 1/10	Uncommon ≥ 1/1,000 to < 1/100	Rare ≥ 1/10,000 to < 1/1,000	Very rare (< 1/10,000)
Infections and infestations		candidal superinfection		
Blood and lymphatic system disorders		leukopenia, neutropenia, thrombocytopenia	anaemia, haemolytic anaemia, purpura, epistaxis, bleeding time prolonged, eosinophilia	agranulocytosis, pancytopenia, activated partial thromboplastin time prolonged, prothrombin time prolonged, Coombs direct test positive, thrombocythaemia
Immune system disorders		hypersensitivity	anaphylactic/ anaphylactoid reaction (including shock)	
Metabolism and nutrition disorders				hypokalaemia, blood glucose decreased, blood albumin decreased, blood protein total decreased
Nervous system disorders		headache, insomnia		
Vascular disorders		hypotension, phlebitis, thrombophlebitis	flushing	
Gastrointestinal disorders	diarrhoea, nausea, vomiting	constipation, dyspepsia, jaundice, stomatitis	pseudo-membranous colitis, abdominal pain	
Hepatobiliary disorders		alanine aminotransferase increased, aspartate aminotransferase increased	hepatitis, blood bilirubin increased, blood alkaline phosphatase increased, gamma-glutamyltransferase increased	
Skin and subcutaneous tissue disorders	rash including maculopapular rash	urticaria, pruritus	erythema multiforme, dermatitis bullous, exanthema	toxic epidermal necrolysis, Stevens-Johnson Syndrome,
Musculoskeletal and connective tissue disorders			arthralgia, myalgia	
Renal and urinary disorders		blood creatinine increased	tubulointerstitial nephritis, renal failure	blood urea increased
General disorders and		pyrexia, injection-site reaction	chills	

administration site conditions				
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Piperacillin therapy has been associated with an increased incidence of fever and rash in cystic fibrosis patients.

4.9 Overdose

Symptoms

There have been post-marketing reports of overdose with piperacillin/tazobactam. The majority of those events experienced including nausea, vomiting, and diarrhoea have also been reported with the usual recommended dosages. Patients may experience neuromuscular excitability or convulsions if higher than recommended doses are given intravenously (particularly in the presence of renal failure).

Treatment

In the event of an overdose, piperacillin/tazobactam treatment should be discontinued. No specific antidote is known.

Treatment should be supportive and symptomatic according to the patient's clinical presentation.

Excessive serum concentrations of either piperacillin or tazobactam may be reduced by haemodialysis (see section 4.4).

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antibacterials for systemic use, Combinations of penicillins, including beta-lactamase inhibitors; ATC code: J01C R05

Mechanism of action

Piperacillin, a broad spectrum, semisynthetic penicillin exerts bactericidal activity by inhibition of both septum and cell-wall synthesis.

Tazobactam, a beta-lactam structurally related to penicillins, is an inhibitor of many beta-lactamases, which commonly cause resistance to penicillins and cephalosporins but it does not inhibit AmpC enzymes or metallo beta-lactamases. Tazobactam extends the antibiotic spectrum of piperacillin to include many beta-lactamase-producing bacteria that have acquired resistance to piperacillin alone.

Pharmacokinetic / Pharmacodynamic relationship

The time above the minimum inhibitory concentration (T>MIC) is considered to be the major pharmacodynamic determinant of efficacy for piperacillin.

Mechanism of resistance:

The two main mechanisms of resistance to piperacillin / tazobactam are:

- Inactivation of the piperacillin component by those beta-lactamases that are not inhibited by tazobactam: beta-lactamases in the Molecular class B, C and D. In addition, tazobactam does not provide protection against extended-spectrum beta-lactamases (ESBLs) in the Molecular class A and D enzyme groups.
- Alteration of penicillin-binding proteins (PBPs), which results in the reduction of the affinity of piperacillin for the molecular target in bacteria.

Additionally, alterations in bacterial membrane permeability, as well as expression of multi-drug efflux pumps, may cause or contribute to bacterial resistance to piperacillin / tazobactam, especially in Gram-negative bacteria.

Breakpoints

EUCAST Clinical MIC Breakpoints for Piperacillin / Tazobactam (2009-12-02, v 1). For Susceptibility Testing Purposes, the Concentration of Tazobactam is Fixed at 4 mg/l

Pathogen	Species-related breakpoints (S≤/R>)
Enterobacteriaceae	8/16
Pseudomonas	16/16
Gram-negative and Gram-positive anaerobes	8/16
Non-species related breakpoints	4/16

The susceptibility of *streptococci* is inferred from the penicillin susceptibility.

The susceptibility of *staphylococci* is inferred from the oxacillin susceptibility.

Susceptibility

The prevalence of acquired resistance may vary geographically and with time for selected species and local information on resistance is desirable, particularly when treating severe infections. As necessary, expert advice should be sought when the local prevalence of resistance is such that the utility of the agent in at least some types of infections is questionable.

Groupings of relevant species according to piperacillin / tazobactam susceptibility
COMMONLY SUSCEPTIBLE SPECIES
<u>Aerobic Gram-positive micro-organisms</u> <i>Enterococcus faecalis</i> <i>Listeria monocytogenes</i> <i>Staphylococcus aureus</i> , methicillin-susceptible [‡] <i>Staphylococcus</i> species, coagulase negative, methicillin-susceptible <i>Streptococcus pyogenes</i> <i>Group B streptococci</i>
<u>Aerobic Gram-negative micro-organisms</u> <i>Citrobacter koseri</i> <i>Haemophilus influenza</i> <i>Moraxella catarrhalis</i> <i>Proteus mirabilis</i>
<u>Anaerobic Gram-positive micro-organisms</u> <i>Clostridium</i> species <i>Eubacterium</i> species <i>Peptostreptococcus</i> species
<u>Anaerobic Gram-negative micro-organisms</u> <i>Bacteroides fragilis</i> group <i>Fusobacterium</i> species <i>Porphyromonas</i> species <i>Prevotella</i> species
SPECIES FOR WHICH ACQUIRED RESISTANCE MAY BE A PROBLEM
<u>Aerobic Gram-positive micro-organisms</u> <i>Enterococcus faecium</i> ^{§,+} <i>Streptococcus pneumonia</i> <i>Streptococcus viridans</i> group

<u>Aerobic Gram-negative micro-organisms</u>
<i>Acinetobacter baumannii</i> ^{\$}
<i>Burkholderia cepacia</i>
<i>Citrobacter freundii</i>
<i>Enterobacter</i> species
<i>Escherichia coli</i>
<i>Klebsiella pneumonia</i>
<i>Morganella morganii</i>
<i>Proteus vulgaris</i>
<i>Providencia</i> spp.
<i>Pseudomonas aeruginosa</i>
<i>Serratia</i> species
INHERENTLY RESISTANT ORGANISMS
<u>Aerobic Gram-positive micro-organisms</u>
<i>Corynebacterium jeikeium</i>
<u>Aerobic Gram-negative micro-organisms</u>
<i>Legionella</i> species
<i>Stenotrophomonas maltophilia</i> ^{+, \$}
<u>Other microorganisms</u>
<i>Chlamydomphilia pneumonia</i>
<i>Mycoplasma pneumonia</i>
^{\$} Species showing natural intermediate susceptibility.
⁺ Species for which high-resistance rates (more than 50%) have been observed in one or more areas/countries/regions within the EU.
[£] All methicillin-resistant staphylococci are resistant to piperacillin / tazobactam.

5.2 Pharmacokinetic properties

Absorption

The peak piperacillin and tazobactam concentrations after 4 g / 500 mg administered over 30 minutes by intravenous infusion are 298 µg/ml and 34 µg/ml respectively.

Distribution

Both piperacillin and tazobactam are approximately 30% bound to plasma proteins. The protein binding of either piperacillin or tazobactam is unaffected by the presence of the other compound. Protein binding of the tazobactam metabolite is negligible.

Piperacillin/tazobactam is widely distributed in tissue and body fluids including intestinal mucosa, gallbladder, lung, bile and bone. Mean tissue concentrations are generally 50 to 100% of those in plasma. Distribution into cerebrospinal fluid is low in subjects with non-inflamed meninges, as with other penicillins.

Biotransformation

Piperacillin is metabolised to a minor microbiologically active desethyl metabolite. Tazobactam is metabolised to a single metabolite, which has been found to be micro-biologically inactive.

Elimination

Piperacillin and tazobactam are eliminated via the kidney by glomerular filtration and tubular secretion.

Piperacillin is excreted rapidly as unchanged drug with 68% of the administered dose appearing in the urine. Tazobactam and its metabolite are eliminated primarily by renal excretion with 80% of the administered dose appearing as unchanged substance and the remainder as the single metabolite. Piperacillin, tazobactam, and desethyl piperacillin are also secreted into the bile.

Following single or multiple doses of piperacillin / tazobactam to healthy subjects, the plasma half-life of piperacillin and tazobactam ranged from 0.7 to 1.2 hours and was unaffected by dose or duration of infusion. The elimination half-lives of both piperacillin and tazobactam are increased with decreasing renal clearance.

There are no significant changes in piperacillin pharmacokinetics due to tazobactam. Piperacillin appears to slightly reduce the clearance of tazobactam.

Special populations

The half-life of piperacillin and of tazobactam increases by approximately 25% and 18%, respectively, in patients with hepatic cirrhosis compared to healthy subjects.

The half-life of piperacillin and tazobactam increases with decreasing creatinine clearance. The increase in half-life is two-fold and four-fold for piperacillin and tazobactam, respectively, at creatinine clearance below 20 ml/min compared to patients with normal renal function.

Haemodialysis removes 30% to 50% of piperacillin / tazobactam, with an additional 5% of the tazobactam dose removed as the tazobactam metabolite. Peritoneal dialysis removes approximately 6% and 21% of the piperacillin and tazobactam doses, respectively, with up to 18% of the tazobactam dose removed as the tazobactam metabolite.

Paediatric population

In a population PK analysis, estimated clearance for 9 month-old to 12 year-old patients was comparable to adults, with a population mean (SE) value of 5.64 (0.34) ml/min/kg. The piperacillin clearance estimate is 80% of this value for paediatric patients 2-9 months of age. The population mean (SE) for piperacillin volume of distribution is 0.243 (0.011) l/kg and is independent of age.

Elderly patients

The mean half-life for piperacillin and tazobactam were 32% and 55% longer, respectively, in the elderly compared with younger subjects. This difference may be due to age-related changes in creatinine clearance.

Race

No difference in piperacillin or tazobactam pharmacokinetics was observed between Asian (n=9) and Caucasian (n=9) healthy volunteers who received single 4 g / 500 mg doses.

5.3 Preclinical safety data

Preclinical data reveal no special hazard for humans based on conventional studies of repeated dose toxicity and genotoxicity. Carcinogenicity studies have not been conducted with piperacillin/tazobactam.

A fertility and general reproduction study in rats using intraperitoneal administration of tazobactam or the combination piperacillin / tazobactam reported a decrease in litter size and an increase in fetuses with ossification delays and variations of ribs, concurrent with maternal toxicity. Fertility of the F1 generation and embryonic development of the F2 generation were not impaired.

Teratogenicity studies using intravenous administration of tazobactam or the combination piperacillin / tazobactam in mice and rats resulted in slight reductions in rat fetal weights at maternally toxic doses but did not show teratogenic effects.

Peri/postnatal development was impaired (reduced pup weights, increase in pup mortality, increase in stillbirths) concurrent with maternal toxicity after intraperitoneal administration of tazobactam or the combination piperacillin / tazobactam in the rat.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

None

6.2 Incompatibilities

This medicinal product must not be mixed with other medicinal products except those mentioned in section 6.6.

Whenever piperacillin/tazobactam is used concurrently with another antibiotic (e.g. aminoglycosides), the substances must be administered separately. The mixing of beta-lactam antibiotics with an aminoglycoside *in vitro* can result in substantial inactivation of the aminoglycoside.

Piperacillin/tazobactam should not be mixed with other drugs in a syringe or infusion bottle since compatibility has not been established.

Due to chemical instability, piperacillin/tazobactam should not be used in solutions containing only sodium bicarbonate.

Lactated Ringer's solution is not compatible with piperacillin/tazobactam

Piperacillin/tazobactam should not be added to blood products or albumin hydrolysates

6.3 Shelf life

Unopened Vial:

2 years

Reconstituted solution in vial:

Chemical and physical in use stability has been demonstrated for 8 hours when stored below 25°C or for 48 hours when stored in a refrigerator (2-8°C), when reconstituted with one of the compatible solvents for reconstitution (see section 6.6).

Diluted infusion solution:

After reconstitution, chemical and physical in-use stability of diluted infusion solutions has been demonstrated for 24 hours at 25°C and for 48 hours when stored in a refrigerator at 2-8°C, when reconstituted using one of the compatible solvents for further dilution of the reconstituted solution at the suggested dilution volumes (see section 6.6).

From a microbiological point of view, the product should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user and would not normally be longer than 24 hours when stored in a refrigerator (2-8°), unless reconstitution /dilution has taken place in controlled and validated conditions.

6.4 Special precautions for storage

Unopened vials:

This medicinal product does not require any special storage conditions.

Reconstituted Solution:

For storage conditions of the reconstituted and diluted medicinal product, see section 6.3.

6.5 Nature and contents of container

20 ml Glass vial (type II) closed with a bromobutyl rubber stopper and an aluminium/polypropylene (red) flip-off cap.

Pack sizes: 1 vial, 10 vials per carton

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

Piperacillin/Tazobactam may be administered by slow intravenous infusion (over 30 minutes).

Preparation of a reconstituted solution

Compatible Diluents for reconstitution:

- sterile water for injection
- Sodium Chloride 9 mg/ml (0.9%) for injection

1 vial of piperacillin/Tazobactam Teva 2 g/250 mg should be reconstituted with 10 ml of one of the solvents listed above.

Preparation of an intravenous infusion

The reconstituted solution should be further diluted to the desired volume (e.g. 50 to 150 ml) with one of the compatible diluents for intravenous use listed below:

- Sterile water for injection (with a maximum recommended volume per dose of 50 ml)
- Sodium Chloride 9 mg/ml (0.9%) solution for infusion
- Glucose 50 mg/ml (5%) in water for injection
- Glucose 50 mg/ml (5%) in sodium chloride 9 mg/ml (0.9%) solution
- Dextrane 60 mg/ml (6%) in sodium chloride 9 mg/ml (0.9%) solution.

For single use only. Discard any unused solution.

The reconstitution/dilution is to be made under aseptic conditions.

To ensure full reconstitution of the contents, once the solvent has been added, the vial should be inverted and shaken until the powder has completely dissolved.

The solution is to be inspected visually for particulate matter and discoloration prior to administration. The solution should only be used if it is clear and free from particles.

Any unused product or waste material should be disposed of in accordance with local requirements.

7 MARKETING AUTHORISATION HOLDER

Teva Pharma B.V.
Computerweg 10
3542 DR Utrecht
The Netherlands

8 MARKETING AUTHORISATION NUMBER

PA 749/126/1

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 3 September 2010

10 DATE OF REVISION OF THE TEXT

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