SUMMARY OF PRODUCTS CHARACTERISTICS

1. Name of the medicinal product

Redmentin 625 mg Tablets

2. Qualitative and quantitative composition

Each film-coated tablet contains amoxicillin trihydrate equivalent to 500 mg amoxicillin and potassium clavulanate equivalent to 125 mg of clavulanic acid.

For the full list of excipients, see section 6.1.

3. Pharmaceutical form

A white coloured elongated bi-convex Film Coated tablets

4. Clinical Particulars

4.1 Therapeutic indications

Redmentin is indicated for the treatment of the following infections in adults and children (see sections 4.2, 4.4 and 5.1):

- Acute bacterial sinusitis (adequately diagnosed)
- Acute otitis media
- Acute exacerbations of chronic bronchitis (adequately diagnosed)
- Community acquired pneumonia
- Cystitis
- Pyelonephritis
- Skin and soft tissue infections in particular cellulitis, animal bites, severe dental abscess with spreading cellulitis.
- Bone and joint infections, in particular osteomyelitis.

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

4.2 Posology and method of administration

Posology

Doses are expressed throughout in terms of amoxicillin/clavulanic acid content except when doses are stated in terms of an individual component.

The dose of Redmentin-625 that is selected to treat an individual infection should take into account:

- The expected pathogens and their likely susceptibility to antibacterial agents (see section 4.4)
- The severity and the site of the infection
- The age, weight and renal function of the patient as shown below.

The use of alternative presentations of Redmentin-625 (e.g. those that provide higher doses of amoxicillin and/or different ratios of amoxicillin to clavulanic acid) should be considered as necessary (see sections 4.4 and 5.1).

For adults and children ≥ 40 kg, this formulation of Redmentin-625 provides a total daily dose of 1500 mg amoxicillin/375 mg clavulanic acid, when administered as recommended below. For

children < 40 kg, this formulation of Redmentin-625 provides a maximum daily dose of 2400 mg amoxicillin/600 mg clavulanic acid, when administered as recommended below. If it is considered that a higher daily dose of amoxicillin is required, it is recommended that another preparation of Redmentin-625 is selected in order to avoid administration of unnecessarily high daily doses of clavulanic acid (see sections 4.4 and 5.1).

The duration of therapy should be determined by the response of the patient. Some infections (e.g. osteomyelitis) require longer periods of treatment. Treatment should not be extended beyond 14 days without review (see section 4.4 regarding prolonged therapy).

Adults and children ≥ 40 kg

One 500 mg/125 mg dose taken three times a day.

Children < 40 kg

20 mg/5 mg/kg/day to 60 mg/15 mg/kg/day given in three divided doses.

Children may be treated with Redmentin-625 tablets, suspensions or paediatric sachets.

As the tablets cannot be divided, children weighing less than 25 kg must not be treated with Redmentin-625 tablets.

The table below presents the received dose (mg/kg body weight) in children weighing 25 kg to 40 kg upon administering a single 500/125 mg tablet.

Body weight [kg]	40	35	30		Single dose recommended [mg/kg body weight] (see above)
Amoxicillin [mg/kg body weight] per single dose (1 film-coated tablet)		14.3	16.7	20.0	6.67 – 20
Clavulanic acid [mg/kg body weight] per single dose (1 film-coated tablet)		3.6	4.2	5.0	1.67 - 5

Children aged 6 years and below or weighing less than 25 kg should preferably be treated with Redmentin-625 suspension or paediatric sachets.

No clinical data are available on doses of Redmentin-625 4:1 formulation higher than 40 mg/10 mg/kg per day in children under 2 years.

Elderly

No dose adjustment is considered necessary.

Renal impairment

Dose adjustments are based on the maximum recommended level of amoxicillin.

No adjustment in dose is required in patients with creatinine clearance (CrCl) greater than 30 ml/min.

Adults and children ≥ 40 kg

CrCl: 10-30 ml/min	500 mg/125 mg twice daily
CrCl < 10 ml /min	500 mg/125 mg once daily
Haemodialysis	500 mg/125 mg every 24 hours, plus 500 mg/125 mg during dialysis, to be repeated at the end of dialysis (as serum concentrations of both amoxicillin and clavulanic acid are decreased)
Children < 40 kg	
CrCl: 10-30 ml/min	15 mg/3.75 mg/kg twice daily (maximum 500 mg/125 mg twice daily).
CrCl < 10 ml /min	15 mg/3.75 mg/kg as a single daily dose (maximum 500 mg/125 mg).
Haemodialysis	15 mg/3.75 mg/kg per day once daily. Prior to haemodialysis 15 mg/3.75 mg/kg. In order to restore circulating drug levels, 15 mg/3.75 mg per kg should be administered after haemodialysis.

Hepatic impairment

Dose with caution and monitor hepatic function at regular intervals (see sections 4.3 and 4.4).

Method of administration

Redmentin-625 is for oral use.

Redmentin-625 should be administered with a meal to minimize potential gastrointestinal intolerance. Therapy can be started parenterally according the SPC of the IV formulation and continued with an oral preparation.

4.3 Contra-indications

Amoxicillin-clavulanate is contraindicated: in patients with a history of hypersensitivity to betalactams, e.g. penicillins and cephalosporins and to any of the excipients. in patients with a previous history of amoxicillin-clavulanate associated jaundice/hepatic dysfunction.

4.4 Special Warnings and Special Precautions for Use

Before initiating therapy with amoxicillin/clavulanic acid, careful enquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins or other beta-lactam agents (see sections 4.3 and 4.8).

Serious and occasionally fatal hypersensitivity hypersensitivity reactions (including anaphylactoid and severe cutaneous adverse reactions) have been reported in patients on penicillin therapy. These reactions are more likely to occur in individuals with a history of penicillin hypersensitivity and in atopic individuals. If an allergic reaction occurs, amoxicillin/clavulanic acid therapy must be discontinued and appropriate alternative therapy instituted.

In the case that an infection is proven to be due to an amoxicillin-susceptible organisms(s) then consideration should be given to switching from amoxicillin/clavulanic acid to amoxicillin in accordance with official guidance.

This presentation of Redmentin-625 is not suitable for use when there is a high risk that the presumptive pathogens have reduced susceptibility or resistance to beta-lactam agents that is

not mediated by beta-lactamases susceptible to inhibition by clavulanic acid. This presentation should not be used to treat penicillin-resistant *S. pneumoniae*.

Convulsions may occur in patients with impaired renal function or in those receiving high doses (see section 4.8).

Amoxicillin/clavulanic acid should be avoided if infectious mononucleosis is suspected since the occurrence of a morbilliform rash has been associated with this condition following the use of amoxicillin.

Concomitant use of allopurinol during treatment with amoxicillin can increase the likelihood of allergic skin reactions.

Prolonged use may occasionally result in overgrowth of non-susceptible organisms.

The occurrence at the treatment initiation of a feverish generalised erythema associated with pustula may be a symptom of acute generalised exanthemous pustulosis (AGEP) (see section 4.8). This reaction requires Redmentin-625 discontinuation and contraindicates any subsequent administration of amoxicillin.

Amoxicillin/clavulanic acid should be used with caution in patients with evidence of hepatic impairment (see sections 4.2, 4.3 and 4.8).

Hepatic events have been reported predominantly in males and elderly patients and may be associated with prolonged treatment. These events have been very rarely reported in children. In all populations, signs and symptoms usually occur during or shortly after treatment but in some cases may not become apparent until several weeks after treatment has ceased. These are usually reversible. Hepatic events may be severe and, in extremely rare circumstances deaths have been reported. These have almost always occurred in patients with serious underlying disease or taking concomitant medications known to have the potential for hepatic effects (see section 4.8).

Antibiotic-associated colitis has been reported with nearly all antibacterial agents including amoxicillin and may range in severity from mild to life threatening (see section 4.8). Therefore, it is important to consider this diagnosis in patients who present with diarrhoea during or subsequent to the administration of any antibiotics. Should antibiotic-associated colitis occur, amoxicillin/clavulanic acid should immediately be discontinued, a physician be consulted and an appropriate therapy initiated. Anti-peristaltic medicinal products are contraindicated in this situation.

Periodic assessment of organ system functions, including renal, hepatic and haematopoietic function is advisable during prolonged therapy.

Prolongation of prothrombin time has been reported rarely in patients receiving amoxicillin/clavulanic acid. Appropriate monitoring should be undertaken when anticoagulants are prescribed concomitantly. Adjustments in the dose of oral anticoagulants may be necessary to maintain the desired level of anticoagulation (see sections 4.5 and 4.8).

In patients with renal impairment, the dose should be adjusted according to the degree of impairment (see section 4.2).

In patients with reduced urine output, crystalluria has been observed very rarely, predominantly with parenteral therapy. During the administration of high doses of amoxicillin, it is advisable to maintain adequate fluid intake and urinary output in order to reduce the possibility of amoxicillin crystalluria. In patients with bladder catheters, a regular check of patency should be maintained (see section 4.9).

During treatment with amoxicillin, enzymatic glucose oxidase methods should be used whenever testing for the presence of glucose in urine because false positive results may occur with non-enzymatic methods.

The presence of clavulanic acid in Redmentin-625 may cause a non-specific binding of IgG and albumin by red cell membranes leading to a false positive Coombs test.

There have been reports of positive test results using the Bio-Rad Laboratories Platelia *Aspergillus* EIA test in patients receiving amoxicillin/clavulanic acid who were subsequently found to be free of *Aspergillus* infection. Cross-reactions with non-*Aspergillus* polysaccharides and polyfuranoses with Bio-Rad Laboratories Platelia *Aspergillus* EIA test have been reported. Therefore, positive test results in patients receiving amoxicillin/clavulanic acid should be interpreted cautiously and confirmed by other diagnostic methods.

4.5 Interaction with Other Medicinal Products and Other Forms of Interaction

Oral anticoagulants

Oral anticoagulants and penicillin antibiotics have been widely used in practice without reports of interaction. However, in the literature there are cases of increased international normalised ratio in patients maintained on acenocoumarol or warfarin and prescribed a course of amoxicillin. If co-administration is necessary, the prothrombin time or international normalised ratio should be carefully monitored with the addition or withdrawal of amoxicillin. Moreover, adjustments in the dose of oral anticoagulants may be necessary (see sections 4.4 and 4.8).

Methotrexate

Penicillins may reduce the excretion of methotrexate causing a potential increase in toxicity.

Probenecid

Concomitant use of probenecid is not recommended. Probenecid decreases the renal tubular secretion of amoxicillin. Concomitant use of probenecid may result in increased and prolonged blood levels of amoxicillin but not of clavulanic acid.

Mycophenolate mofetil

In patients receiving mycophenolate mofetil, reduction in pre-dose concentration of the active metabolite mycophenolic acid (MPA) of approximately 50% has been reported following commencement of oral amoxicillin plus clavulanic acid. The change in pre-dose level may not

accurately represent changes in overall MPA exposure. Therefore, a change in the dose of mycophenolate mofetil should not normally be necessary in the absence of clinical evidence of graft dysfunction. However, close clinical monitoring should be performed during the combination and shortly after antibiotic treatment.

4.6 Pregnancy and Lactation

This product should only be used in pregnancy or lactation if considered essential by the physician. Reproduction studies in animals (mice and rats at doses up to 10 times the human dose) with orally and parenterally administered amoxicillinclavulanate have shown no teratogenic effects. In a single study in women with preterm, premature rupture of the foetal membrane (pPROM), it was reported that prophylactic treatment with amoxicillin-clavulanate may be associated with an increased risk of necrotising enterocolitis in neonates. Amoxicillin 500mg + Clavulanate 125mg Tablets may be administered during the period of lactation. With the exception of the risk of sensitization, associated with the excretion of trace quantities in breast milk, there are no known detrimental effects for the breast-fed infant.

4.7 Effects on Ability to Drive and Use Machines

Amoxicillin 500mg + Clavulanate 125 mg Tablets has no influence on the ability to drive and use machine

4.8 Undesirable Effects

The most commonly reported adverse drug reactions (ADRs) are diarrhoea, nausea and vomiting.

The ADRs derived from clinical studies and post-marketing surveillance with Redmentin-625, sorted by MedDRA System Organ Class are listed below.

The following terminologies have been used in order to classify the occurrence of undesirable effects.

Very common (≥1/10)

Common ($\geq 1/100$ to < 1/10)

Uncommon ($\geq 1/1,000$ to < 1/100)

Rare ($\geq 1/10,000$ to $\leq 1/1,000$)

Very rare (<1/10,000)

Not known (cannot be estimated from the available data)

Infections and infestations	
Mucocutaneous candidosis	Common
Overgrowth of non-susceptible organisms	Not known
Blood and lymphatic system disorders	
Reversible leucopenia (including neutropenia)	Rare
Thrombocytopenia	Rare
Reversible agranulocytosis	Not known
Haemolytic anaemia	Not known
Prolongation of bleeding time and prothrombin time ¹	Not known

Angioneurotic oedema Not known Anaphylaxis Not known Serum sickness-like syndrome Not known Hypersensitivity vasculitis Not known Nervous system disorders Dizziness Uncommon Headache Uncommon Reversible hyperactivity Not known Convulsions² Not known Castrointestinal disorders Diarrhoea Very common Nausea³ Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatitis⁴ Not known Hepatitis⁴ Not known Hepatitis⁴ Not known Cholestatic jaundice⁵ Not known Skin and subcutaneous tissue disorders? Skin rash Uncommon Pruritus Un	Immune system disorders ¹⁰				
Serum sickness-like syndrome Not known Nervous system disorders Dizziness Uncommon Headache Uncommon Reversible hyperactivity Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Not known Not known Not known Not known Not known Antibiotic-associated colitis⁴ Not known Hepatobiliary disorders Rises in AST and/or ALT⁵ Uncommon Hepatitis⁶ Not known Skin and subcutaneous tissue disorders Skin rash Uncommon Pruritus Uncommon Pruritus Uncommon Criticaria Erythema multiforme Stevens-Johnson syndrome Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis Not known Corners of the Not known	Angioneurotic oedema	Not known			
Hypersensitivity vasculitis Not known Nervous system disorders Dizziness Uncommon Headache Uncommon Reversible hyperactivity Not known Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/ or ALT³ Uncommon Hepatitis⁰ Not known Cholestatic jaundice⁰ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Urticaria Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Renal and urinary disorders Interstitial nephritis Not known	Anaphylaxis	Not known			
Nervous system disorders Dizziness Uncommon Headache Uncommon Reversible hyperactivity Not known Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT⁵ Uncommon Hepatitis⁰ Not known Cholestatic jaundice⁰ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Urticaria Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Choteless) Renal and urinary disorders Not known	Serum sickness-like syndrome	Not known			
Dizziness Uncommon Headache Uncommon Reversible hyperactivity Not known Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT³ Uncommon Cholestatic jaundice⁰ Not known Skin and subcutaneous tissue disorders? Skin rash Uncommon Urticaria Uncommon Urticaria Uncommon Urticaria Uncommon Crocic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)° Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Hypersensitivity vasculitis	Not known			
Headache Reversible hyperactivity Not known Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/ or ALT³ Uncommon Hepatitis⁶ Not known Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Pruritus Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Bullous exfoliative-dermatitis Not known Porug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Nervous system disorders				
Reversible hyperactivity Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT³ Uncommon Hepatitis⁶ Not known Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Pruritus Uncommon Lyricaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Not known Not known Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Dizziness	Uncommon			
Convulsions² Not known Aeseptic meningitis Not known Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT⁵ Uncommon Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Headache	Uncommon			
Aeseptic meningitis Gastrointestinal disorders Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT³ Uncommon Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Toxic epidermal necrolysis Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Not known	Reversible hyperactivity	Not known			
Gastrointestinal disorders Diarrhoea Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT³ Uncommon Hepatitis⁶ Not known Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders₹ Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Convulsions ²	Not known			
Diarrhoea Very common Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT⁵ Uncommon Hepatitis⁰ Not known Cholestatic jaundice⁰ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Aeseptic meningitis	Not known			
Nausea³ Common Vomiting Common Indigestion Uncommon Antibiotic-associated colitis⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT⁵ Uncommon Hepatitis⁶ Not known Cholestatic jaundice⁶ Not known Skin and subcutaneous tissue disorders² Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)⁰ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Gastrointestinal disorders				
Vomiting Common Indigestion Uncommon Antibiotic-associated colitis ⁴ Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT ⁵ Uncommon Hepatitis ⁶ Not known Cholestatic jaundice ⁶ Not known Skin and subcutaneous tissue disorders ⁷ Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP) ⁹ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Diarrhoea	Very common			
Indigestion Antibiotic-associated colitis4 Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT5 Uncommon Hepatitis6 Not known Cholestatic jaundice6 Not known Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known Not known	Nausea ³	Common			
Antibiotic-associated colitis4 Not known Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT5 Uncommon Hepatitis6 Not known Cholestatic jaundice6 Not known Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Vomiting	Common			
Black hairy tongue Not known Hepatobiliary disorders Rises in AST and/or ALT ⁵ Uncommon Hepatitis ⁶ Not known Cholestatic jaundice ⁶ Not known Skin and subcutaneous tissue disorders ⁷ Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP) ⁹ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Indigestion	Uncommon			
Hepatobiliary disorders Rises in AST and/or ALT5 Uncommon Hepatitis6 Not known Cholestatic jaundice6 Not known Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Antibiotic-associated colitis ⁴	Not known			
Rises in AST and/or ALT5 Uncommon Hepatitis6 Not known Cholestatic jaundice6 Not known Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Black hairy tongue	Not known			
Hepatitis6 Not known Cholestatic jaundice6 Not known Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known					
Cholestatic jaundice ⁶ Not known Skin and subcutaneous tissue disorders ⁷ Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP) ⁹ Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Rises in AST and/or ALT ⁵	Uncommon			
Skin and subcutaneous tissue disorders7 Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Hepatitis ⁶	Not known			
Skin rash Uncommon Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Cholestatic jaundice ⁶	Not known			
Pruritus Uncommon Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Skin and subcutaneous tissue disorders ⁷				
Urticaria Uncommon Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known Not known	Skin rash	Uncommon			
Erythema multiforme Rare Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Pruritus	Uncommon			
Stevens-Johnson syndrome Not known Toxic epidermal necrolysis Not known Bullous exfoliative-dermatitis Not known Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known Not known	Urticaria	Uncommon			
Toxic epidermal necrolysis Bullous exfoliative-dermatitis Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known Not known Not known	Erythema multiforme	Rare			
Bullous exfoliative-dermatitis Acute generalised exanthemous pustulosis (AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known Not known	Stevens-Johnson syndrome	Not known			
Acute generalised exanthemous pustulosis (AGEP)9 Not known Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Toxic epidermal necrolysis	Not known			
(AGEP)9 Drug reaction with eosinophilia and systemic symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known	Bullous exfoliative-dermatitis	Not known			
symptoms (DRESS) Renal and urinary disorders Interstitial nephritis Not known		Not known			
Interstitial nephritis Not known		Not known			
	Renal and urinary disorders				
Crystalluria ⁸ Not known	Interstitial nephritis	Not known			
	Crystalluria ⁸	Not known			

- ¹ See section 4.4
- ² See section 4.4
- ³ Nausea is more often associated with higher oral doses. If gastrointestinal reactions are evident, they may be reduced by taking amoxicillin/clavulanic acid with a meal.
- ⁴ Including pseudomembranous colitis and haemorrhagic colitis (see section 4.4)
- ⁵ A moderate rise in AST and/or ALT has been noted in patients treated with beta-lactam class antibiotics, but the significance of these findings is unknown.
- ⁶These events have been noted with other penicillins and cephalosporins (see section 4.4).
- ⁷ If any hypersensitivity dermatitis reaction occurs, treatment should be discontinued (see section 4.4).
- ⁸ See section 4.9
- ⁹ See section 4.4
- ¹⁰ See sections 4.3 and 4.4

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorization of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the TMDA ADR reporting tool; website: https://imis.tmda.go.tz/arrt or search for TMDA Adverse Reactions Reporting Tool in the Google Play Store.

4.9 Overdose

Gastrointestinal symptoms and disturbance of the fluid and electrolyte balances may be evident. GI symptoms may be treated symptomatically, with attention to the water/electrolyte balance. it can be removed from the circulation by haemodialysis. Amoxicillin crystalluria, in some cases leading to renal failure, has been observed (see Section 4.4 Special warnings and special precautions for use).

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Combinations of penicillins, incl. beta-lactamase inhibitors; ATC code: J01CR02.

Mechanism of action

Amoxicillin is a semisynthetic penicillin (beta-lactam antibiotic) that inhibits one or more enzymes (often referred to as penicillin-binding proteins, PBPs) in the biosynthetic pathway of bacterial peptidoglycan, which is an integral structural component of the bacterial cell wall. Inhibition of peptidoglycan synthesis leads to weakening of the cell wall, which is usually followed by cell lysis and death.

Amoxicillin is susceptible to degradation by beta-lactamases produced by resistant bacteria and therefore the spectrum of activity of amoxicillin alone does not include organisms which produce these enzymes.

Clavulanic acid is a beta-lactam structurally related to penicillins. It inactivates some beta-lactamase enzymes thereby preventing inactivation of amoxicillin. Clavulanic acid alone does not exert a clinically useful antibacterial effect.

Pharmacokinetic/pharmacodynamic relationship

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

Mechanisms of resistance

The two main mechanisms of resistance to amoxicillin/clavulanic acid are:

- Inactivation by those bacterial beta-lactamases that are not themselves inhibited by clavulanic acid, including class B, C and D.
- Alteration of PBPs, which reduce the affinity of the antibacterial agent for the target. Impermeability of bacteria or efflux pump mechanisms may cause or contribute to bacterial resistance, particularly in Gram-negative bacteria.

Breakpoints

MIC breakpoints for amoxicillin/clavulanic acid are those of the European Committee on Antimicrobial Susceptibility Testing (EUCAST).

Organism	Susceptibility Breakpoints (µg/ml)			
	Susceptible	Intermediate	Resistant	
Haemophilus influenzae ¹	≤1	-	> 1	
Moraxella catarrhalis¹	≤1	-	>1	
Staphylococcus aureus ²	≤ 2	-	> 2	
Coagulase-negative staphylococci ²	≤ 0.25		> 0.25	
Enterococcus¹	≤ 4	8	> 8	
Streptococcus A, B, C, G ⁵	≤ 0.25	-	> 0.25	
Streptococcus pneumoniae ³	≤ 0.5	1-2	> 2	
Enterobacteriaceae ^{1,4}	-	-	> 8	
Gram-negative Anaerobes1	≤ 4	8	> 8	
Gram-positive Anaerobes1	≤ 4	8	> 8	
Non-species related breakpoints ¹	≤ 2	4-8	> 8	

¹ The reported values are for amoxicillin concentrations. For susceptibility testing purposes, the concentration of clavulanic acid is fixed at 2 mg/l.

The prevalence of resistance may vary geographically and with time for selected species, and local information on resistance is desirable, particularly when treating severe infections. As

² The reported values are oxacillin concentrations.

³ Breakpoint values in the table are based on ampicillin breakpoints.

⁴ The resistant breakpoint of R>8 mg/l ensures that all isolates with resistance mechanisms are reported resistant.

⁵ Breakpoint values in the table are based on benzylpenicillin breakpoints.

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.

Commonly susceptible species

Aerobic Gram-positive micro-organisms

Enterococcus faecalis

Gardnerella vaginalis

Staphylococcus aureus (methicillin-susceptible)£

Coagulase-negative staphylococci (methicillin-susceptible)

Streptococcus agalactiae

Streptococcus pneumoniae¹

Streptococcus pyogenes and other beta-haemolytic streptococci

Streptococcus viridans group

Aerobic Gram-negative micro-organisms

Capnocytophaga spp.

Eikenella corrodens

Haemophilus influenzae²

Moraxella catarrhalis

Pasteurella multocida

Anaerobic micro-organisms

Bacteroides fragilis

Fusobacterium nucleatum

Prevotella spp.

Species for which acquired resistance may be a problem

Aerobic Gram-positive micro-organisms

Enterococcus faecium \$

Aerobic Gram-negative micro-organisms

Escherichia coli

Klebsiella oxytoca

Klebsiella pneumoniae

Proteus mirabilis

Proteus vulgaris

Inherently resistant organisms

Aerobic Gram-negative micro-organisms

Acinetobacter sp.

Citrobacter freundii

Enterobacter sp.

Legionella pneumophila

Morganella morganii

Providencia spp.

Pseudomonas sp.

Serratia sp.

Stenotrophomonas maltophilia

Other micro-organisms

Chlamydophila pneumoniae

Chlamydophila psittaci

Coxiella burnetti

Mycoplasma pneumoniae

- \$ Natural intermediate susceptibility in the absence of acquired mechanism of resistance.
- £ All methicillin-resistant staphylococci are resistant to amoxicillin/clavulanic acid
- ¹Streptococcus pneumoniae that are resistant to penicillin should not be treated with this presentation of amoxicillin/clavulanic acid (see sections 4.2 and 4.4).
- ²Strains with decreased susceptibility have been reported in some countries in the EU with a frequency higher than 10%.

5.2 Pharmacokinetic Properties

Absorption

Amoxicillin and clavulanic acid, are fully dissociated in aqueous solution at physiological pH. Both components are rapidly and well absorbed by the oral route of administration. Following oral administration, amoxicillin and clavulanic acid are approximately 70% bioavailable. The plasma profiles of both components are similar and the time to peak plasma concentration (T_{max}) in each case is approximately one hour.

The pharmacokinetic results for a study, in which amoxicillin/clavulanic acid (500 mg/125 mg tablets three times daily) was administered in the fasting state to groups of healthy volunteers are presented below.

Mean (± SD) pharmacokinetic parameters					
Active substance(s)	Dose	C _{max}	T _{max} *	AUC (0-24h)	T 1/2
administered	(mg)	(μg/ml)	(h)	(µg.h/ml)	(h)
Amoxicillin	Amoxicillin				
AMX/CA 500/125 mg	500	7.19 ± 2.26	1.5 (1.0-2.5)	53.5 ± 8.87	1.15 ± 0.20
Clavulanic acid					
AMX/CA 500 mg/125 mg	125	2.40 ± 0.83	1.5 (1.0-2.0)	15.72 ± 3.86	0.98 ± 0.12
AMX – amoxicillin, (* Median (range)	CA – clavular	ic acid			

Amoxicillin and clavulanic acid serum concentrations achieved with amoxicillin/clavulanic acid are similar to those produced by the oral administration of equivalent doses of amoxicillin or clavulanic acid alone.

Distribution

About 25% of total plasma clavulanic acid and 18% of total plasma amoxicillin is bound to protein. The apparent volume of distribution is around 0.3-0.4 l/kg for amoxicillin and around 0.2 l/kg for clavulanic acid.

Following intravenous administration, both amoxicillin and clavulanic acid have been found in gall bladder, abdominal tissue, skin, fat, muscle tissues, synovial and peritoneal fluids, bile and pus. Amoxicillin does not adequately distribute into the cerebrospinal fluid.

From animal studies there is no evidence for significant tissue retention of drug-derived material for either component. Amoxicillin, like most penicillins, can be detected in breast milk. Trace quantities of clavulanic acid can also be detected in breast milk (see section 4.6).

Both amoxicillin and clavulanic acid have been shown to cross the placental barrier (see section 4.6).

Biotransformation

Amoxicillin is partly excreted in the urine as the inactive penicilloic acid in quantities equivalent to up to 10 to 25% of the initial dose. Clavulanic acid is extensively metabolized in man and eliminated in urine and faeces, and as carbon dioxide in expired air.

Elimination

The major route of elimination for amoxicillin is via the kidney, whereas for clavulanic acid it is by both renal and non-renal mechanisms.

Amoxicillin/clavulanic acid has a mean elimination half-life of approximately one hour and a mean total clearance of approximately 25 l/h in healthy subjects. Approximately 60 to 70% of the amoxicillin and approximately 40 to 65% of the clavulanic acid are excreted unchanged in urine during the first 6 h after administration of single Redmentin 250 mg/125 mg or 500 mg/125 mg tablets. Various studies have found the urinary excretion to be 50-85% for amoxicillin and between 27-60% for clavulanic acid over a 24 hour period. In the case of clavulanic acid, the largest amount of drug is excreted during the first 2 hours after administration.

Concomitant use of probenecid delays amoxicillin excretion but does not delay renal excretion of clavulanic acid (see section 4.5).

Age

The elimination half-life of amoxicillin is similar for children aged around 3 months to 2 years and older children and adults. For very young children (including preterm newborns) in the first week of life the interval of administration should not exceed twice daily administration due to immaturity of the renal pathway of elimination. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function.

Gender

Following oral administration of amoxicillin/clavulanic acid to healthy males and female subjects, gender has no significant impact on the pharmacokinetics of either amoxicillin or clavulanic acid.

Renal impairment

The total serum clearance of amoxicillin/clavulanic acid decreases proportionately with decreasing renal function. The reduction in drug clearance is more pronounced for amoxicillin than for clavulanic acid, as a higher proportion of amoxicillin is excreted *via* the renal route. Doses in renal impairment must therefore prevent undue accumulation of amoxicillin while maintaining adequate levels of clavulanic acid (see section 4.2).

Hepatic impairment

Hepatically impaired patients should be dosed with caution and hepatic function monitored at regular intervals.

5.3 Preclinical Safety Data

Nonclinical data reveal no special hazard for humans based on studies of safety pharmacology, repeated dose toxicity and toxicity to reproduction.

Carcinogenicity studies have not been conducted with Redmentin-625 or its components. However, potassium clavulanate alone or combined 1:2 or 1:4 with amoxicillin has been tested in a comprehensive battery of in vitro and in vivo genotoxicity tests which showed no significant genotoxic hazard.

Distribution category: Prescription Only Medicines (POM)

6. PHARMACEUTICAL PARTICULARS

6.1 List of Excipients

Microcrystalline Clellulose Syliod -FP (Silica) Crospovidone Talc Clacium Stearate Methylene chloride Iso propyl alcohol Insta Moist Shield ICMS-2398

Qualitative composition of Insta Moist Shield ICMS 2398:

Ingredients	EEC No.	CRF No.	CL No.
HPMC 2910/Hypromellose	E464	172.974	-
USP/BP/EP/IP			
Diethyl Phthalate USP/BP/EP/IP	-	-	-
Ethyl Cellulose USP/BP/EP/IP	-	172.868	
		73.1	
		73.1001	
Talc USP/BP/EP/IP	E553b	73.1550	-
Titanium Dioxide USP/BP/EP/IP	E171	73.575	77891
		73.1575	

6.2 Incompatibilities

Not Applicable

6.3 Shelf Life

2 years (24 months)

6.4 Special Precautions for Storage

Do not store above 30°C

6.5 Nature and Contents of Container

Alu-Alu blister of 2X7's Tablets

6.6 Special precautions for disposal

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

7. MARKETING AUTHORISATION HOLDER

Reddy's Pharma Limited P.O. Box 38083, Plot No. 28 Kipata/Nyamwezi Street, Dar es Salaam Tanzania

8. MARKETING AUTHORISATION NUMBER

TAN 21 HM 0037

9. DATE OF FIRST AUTHORISATION/RENEWAL OF AUTHORISATION

Date of first authorization: December 24, 2020

Date of latest renewal: N/A

10. DATE OF (PARTIAL) REVISION OF THE TEXT

March, 2021