

SCHEDULING STATUS:

S4

PROPRIETARY NAMES AND DOSAGE FORM:BIO-AMOKSIKLAV 625 (film coated tablets)
BIO-AMOKSIKLAV 1000 (film coated tablets)**COMPOSITION:**

Bio-Amoksiklav 625: Each tablet contains amoxicillin trihydrate equivalent to 500 mg amoxicillin and potassium clavulanate equivalent to 125 mg clavulanic acid.

Bio-Amoksiklav 1000: Each tablet contains amoxicillin trihydrate equivalent to 875 mg amoxicillin and potassium clavulanate equivalent to 125 mg clavulanic acid.

*The excipients are:**Core tablet:* colloidal anhydrous silica, crospovidone, croscarmellose sodium, magnesium stearate, microcrystalline cellulose, talc.*Coating:* ethylcellulose, hydroxypropyl cellulose, polysorbate 80, talc, triethyl citrate, titanium dioxide.

Sugar free.

PHARMACOLOGICAL CLASSIFICATION:

A.20.1.2 Penicillins

PHARMACOLOGICAL ACTION:**Pharmacodynamic properties**

Bio-Amoksiklav is a combination of amoxicillin and clavulanic acid.

Amoxicillin is a semisynthetic beta-lactamase-susceptible penicillin, which has *in vitro* bactericidal activity against broad spectrum of non beta-lactamase-producing Gram positive, and Gram negative organisms. The spectrum of activity does not include those organisms that produce beta-lactamases, namely resistant staphylococci, and all strains of *Pseudomonas*, *Klebsiella* and *Enterobacter*.Clavulanic acid has been shown *in vitro* to be an irreversible inhibitor of beta-lactamases produced by: *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis*, *Proteus vulgaris*, *Haemophilus influenzae*, *Neisseria gonorrhoea* and *Bacteroides fragilis*. Clavulanic acid does not inactivate the chromosomally mediated (Sykes type 1 Cephalosporinase) beta-lactamases produced by *Acinetobacter* species, *Citrobacter* species, *Enterobacter*, indole positive *Proteus*, *Providencia* species and *Serratia marcescens*. *In vitro* the formulation showed synergism against amoxicillin-resistant organisms, with no evidence of antagonism and the activity was not reduced in the presence of serum. (*In vitro* activity does not necessarily imply *in vivo* efficacy.) The clavulanic acid component has very little bactericidal action.**Pharmacokinetic properties****Absorption:**

Amoxicillin is stable in the presence of acidic gastric secretions. Peak blood levels are achieved 1-2 hours after administration. There is a linear dose response in peak serum levels. The pharmacokinetics of amoxicillin and clavulanic acid are closely allied and neither is adversely affected by the presence of food in the stomach.

Distribution:

Approximately 18 % of the total plasma amoxicillin content is protein bound. Amoxicillin diffuses readily into most body tissues with the exception of the brain and spinal fluid. Inflammation generally increases the permeability of the meninges to penicillins and this may apply to amoxicillin.

Excretion:

The elimination half-life of amoxicillin is approximately 1 hour. Co-administration of probenecid has little effect on the excretion of the clavulanic acid component of the formulation. Small amounts of amoxicillin are also excreted in the faeces and bile.

INDICATIONS:

Bio-Amoksiklav formulations are indicated for the treatment of infections caused by amoxicillin resistant organisms producing beta-lactamases sensitive to clavulanic acid:

Upper respiratory tract infections, such as sinusitis, recurrent otitis media, tonsillitis. Lower respiratory tract infections, such as bronchitis and bronchopneumonia. Genito-urinary tract infections, such as cystitis, urethritis, pyelonephritis. Skin and soft tissue infections.

Bio-Amoksiklav formulations will also be effective in the treatment of infections caused by amoxicillin sensitive organisms at the appropriate amoxicillin dosage since in this situation the clavulanic acid component does not contribute to the therapeutic effect.

In the treatment of infections caused by *Pseudomonas aeruginosa*, an aminoglycoside should be administered concomitantly.**CONTRAINDICATIONS:**

Hypersensitivity to any of the ingredients, including the excipients, penicillin or to cephalosporins. Cross-sensitivity between penicillins and cephalosporins is well documented. Bio-Amoksiklav is contraindicated in patients with a previous history of amoxicillin/clavulanic-associated jaundice/hepatic dysfunction.

WARNINGS AND SPECIAL PRECAUTIONS:

Serious and occasionally fatal hypersensitivity (anaphylactic) reactions have been reported in patients on penicillin therapy. Before initiating therapy with Bio-Amoksiklav, careful enquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins or other allergens. Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients on oral penicillins. These reactions are more likely to occur in individuals with a history of penicillin hypersensitivity and/or a history to multiple allergens. There have been reports of individuals with a history of penicillin hypersensitivity, who have experienced severe reactions when treated with cephalosporins.

If an allergic reaction occurs, Bio-Amoksiklav should be discontinued and the appropriate therapy instituted. Serious anaphylactic reactions may require immediate treatment with adrenaline. Oxygen, intravenous steroids and airway management, including intubation may also be required.

Bio-Amoksiklav 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. Since Bio-Amoksiklav contains amoxicillin, an aminopenicillin, it is not the treatment of choice in patients presenting with sore throat or pharyngitis because of the possibility that the underlying cause is infectious mononucleosis, in the presence of which there is a high incidence of rash if amoxicillin is used. Bio-Amoksiklav should be given with caution to patients with lymphatic leukaemia since they are especially susceptible to amoxicillin induced skin rashes. Prolonged use may result in overgrowth of non-susceptible organisms. Pseudomembranous enterocolitis has been reported. Prolongation of prothrombin time has been reported rarely in patients receiving Bio-Amoksiklav. Appropriate monitoring should be undertaken when anticoagulants are prescribed concurrently.

Periodic assessment of organ function, including renal, hepatic and haematopoietic functions, is advisable during prolonged therapy. Caution is needed when administering amoxicillin to patients with syphilis, as the Jarisch-Herxheimer reaction may occur in these patients.

When high doses are administered, adequate fluid intake and urinary output must be maintained.

The sodium content must be taken into account in patients on a sodium-restricted diet if the administration of high doses is necessary.

The use of lignocaine or benzyl alcohol together with amoxicillin must be used only when administering an intramuscular injection, and not given intravenously. The possibility of superinfections with mycotic or bacterial pathogens should be kept in mind during therapy. If superinfections occur (usually involving *Aerobacter*, *Pseudomonas* or *Candida*), the agent should be discontinued and/or appropriate therapy instituted.**Impaired hepatic function:**

Changes in liver function tests have been observed in some patients receiving Bio-Amoksiklav. Transient hepatitis and cholestatic jaundice has been reported. It should be used with care in patients with evidence of hepatic dysfunction.

Impaired renal function:

In patients with moderate or severe renal impairment Bio-Amoksiklav dosage should be adjusted (see DOSAGE AND DIRECTIONS FOR USE).

Bio-Amoksiklav 1000 should not be used in patients with a glomerular filtration rate of less than 30 ml/minute.

Use in lactation:

Amoxicillin is excreted in the milk; there is no data on the excretion of clavulanic acid in human milk.

Therefore, caution should be exercised when Bio-Amoksiklav is administered to a nursing woman.

The use of Bio-Amoksiklav may lead to the selection of resistant strains of organisms and sensitivity testing should, therefore, be carried out whenever possible, to demonstrate the appropriateness of therapy.

INTERACTIONS:

Probenecid decreases the renal tubular secretion of amoxicillin, but does not affect clavulanic acid excretion. Concurrent use with Bio-Amoksiklav tablets may result in increased and prolonged blood levels of amoxicillin, but not of clavulanic acid. Bio-Amoksiklav may reduce the efficacy of oral contraceptives and patients should be warned accordingly. The concomitant administration of allopurinol and ampicillin substantially increases the incidence of skin rashes in patients receiving both agents as compared to patients receiving ampicillin alone. It is not known whether this potentiation of ampicillin rashes is due to allopurinol or the hyperuricaemia present in these patients. Tetracyclines and other bacteriostatic medicines may interfere with the bactericidal effects of amoxicillin.

Interaction with Laboratory tests:

It is recommended that when testing for the presence of glucose in urine during Bio-Amoksiklav treatment, enzymatic glucose oxidase methods should be used. Due to the high urinary concentrations of amoxicillin, false positive readings are common with chemical methods.

PREGNANCY AND LACTATION:**Use in pregnancy:**

The safety of Bio-Amoksiklav in pregnancy has not been established.

Use in lactation:

Amoxicillin is distributed into breast milk. Although significant problems in humans have not been documented, the use of amoxicillin by nursing mothers may lead to sensitisation, diarrhoea, candidiasis and skin rash in the infant.

DOSAGE AND DIRECTIONS FOR USE:

Tablets should be taken immediately before a meal.

Dosages:**General information:** For infections caused by amoxicillin sensitive organisms the dosage is that approved for amoxicillin as the clavulanic acid component does not contribute to the therapeutic effect.**Adult:**

The adult dose for severe infections and infection of the respiratory tract, should be one Bio-Amoksiklav 625 tablet every eight hours at the start of a meal, or one Bio-Amoksiklav 1000 tablet every 12 hours at the start of a meal.

Since Bio-Amoksiklav 625 and 1000 tablets contain the same amount of clavulanic acid (125 mg as the potassium salt) two Bio-Amoksiklav 625 tablets are not equivalent to one Bio-Amoksiklav 1000. Therefore, two Bio-Amoksiklav 625 should not be substituted for one Bio-Amoksiklav 1000 tablet for the treatment of severe infections.

Impaired renal function:

Both amoxicillin and clavulanic acid are excreted by the kidneys and the serum half-life of each increases in patients with renal failure. Therefore, the dose may need to be reduced or the interval extended. Dosage adjustments are based on the maximum recommended level of amoxicillin.

The following schedule is proposed:**Bio-Amoksiklav 625:***Mild impairment (creatinine clearance greater than 30 ml/minute):* no change in dosage.*Moderate impairment (creatinine clearance 10 to 30 ml/minute):* 1 tablet every 12 hours.*Severe impairment (creatinine clearance less than 10 ml/minute):* half a tablet every twelve hours.

Bio-Amoksiklav 1000 should not be used in patients with glomerular filtration rate of less than 30 ml/minutes.

Haemodialysis decreases serum concentrations of both amoxicillin and clavulanic acid and an additional dose should be administered at the end of dialysis.

Dosage Guide:**Amoxicillin sensitive organisms (Adults):**

	Upper respiratory tract infections	Lower respiratory tract infections	Urinary tract infections	Skin and soft tissue infections
Bio-Amoksiklav 625	1 tablet 8 hourly	1 tablet 8 hourly	1 tablet 8 hourly	1 tablet 8 hourly
Bio-Amoksiklav 1000	1 tablet 12 hourly	1 tablet 12 hourly	1 tablet 12 hourly	1 tablet 12 hourly

Amoxicillin resistant organisms (Adults)

	Upper respiratory tract infections (OTITIS MEDIA)	Lower respiratory tract infections (BRONCHITIS)	Urinary tract infections	Skin and soft tissue infections
Bio-Amoksiklav 625	1 tablet 8 hourly	1 tablet 8 hourly	1 tablet 8 hourly	1 tablet 8 hourly
Bio-Amoksiklav 1000	1 tablet 12 hourly	1 tablet 12 hourly	1 tablet 12 hourly	1 tablet 12 hourly

SIDE EFFECTS:

The most frequently reported adverse effects are diarrhoea, nausea, vomiting, indigestion, abdominal pain, skin rashes, urticaria and erythema multiforme, vaginitis, abnormal taste, headache, dizziness, tiredness and hot flushes. The incidence and severity of adverse effects, particularly nausea and diarrhoea, increased with the higher recommended dose and can be minimised by administering Bio-Amoksiklav at the start of a meal. In addition, as these symptoms are especially related to the potassium clavulanate component, where these gastro-intestinal symptoms occur and a higher concentration of amoxicillin is required, consideration should be given to administering the additional amoxicillin separately.

*The following adverse reactions have been reported and may occur with Bio-Amoksiklav:***Immune system disorders****Frequent:** Skin rashes, pruritis and urticaria, serum sickness-like syndrome, erythema multiforme.**Less frequent:** Cases of Stevens-Johnson syndrome, hypersensitivity vasculitis, interstitial nephritis and less frequently bullous exfoliative dermatitis and toxic epidermal necrolysis have been reported.

Whenever such reactions occur, Bio-Amoksiklav should be discontinued. Serious and occasional fatal hypersensitivity (anaphylactic) reactions and angioneurotic oedema can occur with oral penicillin (see WARNINGS AND SPECIAL PRECAUTIONS).

Interstitial nephritis can occur rarely.

Gastrointestinal disorders**Frequent:** Nausea, vomiting, diarrhoea, gastritis, indigestion, abdominal pain, stomatitis, glossitis, black 'hairy' tongue, enterocolitis, mucocutaneous candidiasis and antibiotic-associated colitis (including pseudomembranous colitis and haemorrhagic colitis).

If gastrointestinal reactions are evident, they may be reduced by taking Bio-Amoksiklav at the start of a meal.

Hepato-biliary disorders**Less frequent:** Hepatitis and cholestatic jaundice have been reported. The events may be severe, and occur predominantly in adult or elderly patients. 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.

The hepatic effects are seriously reversible. However, in extremely rare circumstances, death has been reported. These have almost always been cases associated with serious underlying disease or concomitant medication. A moderate raise in Aspartate transaminase (AST) and/or Alanine transaminase (ALT) has been noted in patients treated with Bio-Amoksiklav, but the significance of these findings is unknown.

Renal and urinary disorders**Less frequent:** Crystalluria has been reported.**Blood and lymphatic system disorders****Less frequent:** Haemolytic anaemia, reversible thrombocytopenia, thrombocytopenic purpura, eosinophilia, reversible leucopenia and agranulocytosis have been reported. These reactions are usually reversible on discontinuation of therapy and are believed to be hypersensitivity phenomena. A slight thrombocytosis was noted in less than 1 % of the patients treated with Bio-Amoksiklav. Prolongation of bleeding time and prothrombin time has also been reported less frequently. Appropriate monitoring should be undertaken when anticoagulants are prescribed concomitantly.**Nervous system disorders****Frequent:** Headache, dizziness, tiredness and hot flushes.**Less frequent:** CNS effects have been seen rarely. These include reversible hyperactivity, dizziness, headache and convulsions. Convulsions may occur with impaired renal function or in those receiving high doses; abnormal taste.**General disorders and administrative site conditions****Less frequent:** Superficial tooth discolouration has been reported especially with the suspension and chewable tablet formulations. It can usually be removed by brushing.**KNOWN SYMPTOMS OF OVER DOSAGE AND PARTICULARS OF ITS TREATMENT:**

Overdosage with amoxicillin is usually asymptomatic. However, gastrointestinal effects such as nausea, vomiting and diarrhoea may be evident and symptoms of water and electrolyte imbalance should be treated symptomatically. Adequate fluid intake and urinary output must be maintained to minimise the possibility of crystalluria. Amoxicillin may be removed from the circulation by haemodialysis. The molecular weight, degree of protein binding and pharmacokinetic profile of clavulanic acid together with information from a single patient with renal insufficiency all suggest that this compound may also be removed by haemodialysis.

IDENTIFICATION:

BIO-AMOKSIKLAV 625: White to almost white oval biconvex film-coated tablet.

BIO-AMOKSIKLAV 1000: White to almost white oblong film-coated tablet with bevelled edges, scored and debossed with 875/125 on one side and AMC on other side.

PRESENTATION:

BIO-AMOKSIKLAV 625: Glass bottles containing 15 tablets or aluminium blister strip containing 5 tablets. Three blister strips are packed in an outer carton.

BIO-AMOKSIKLAV 1000: Aluminium blister strip containing 5 tablets. Two blister strips are packed in an outer carton.

STORAGE INSTRUCTIONS:

Dispense tablets in their original containers or in moisture proof containers. Store at or below 25 °C. Protect from light and moisture. KEEP OUT OF REACH OF CHILDREN.

REGISTRATION NUMBERS:

BIO-AMOKSIKLAV 625: 31/20.1.2/0682

BIO-AMOKSIKLAV 1000: A40/20.1.2/0500

NAME AND BUSINESS ADDRESS OF THE HOLDER OF THE REGISTRATION CERTIFICATE:

Biotech Laboratories (Pty) Ltd

Ground Floor, Block K West, Central Park,

400 16th Road, Randjespark, Midrand, 1685, South Africa**DATE OF PUBLICATION OF THIS PACKAGE INSERT:**

Bio-Amoksiklav 625: 23 August 1999

Bio-Amoksiklav 1000: 2 March 2007

Date of latest revision of the text as approved by Council: 11 March 2010

Date of latest revision with regard to amended Reg. 9 and 10: 06 February 2015

Bio-Amoksiklav 625	
Zimbabwe:	PP
97/7.1.2/3267	

