1. **Product Name**

E-MYCIN (erythromycin) 200 mg/5 mL and 400 mg/5 mL granules for oral suspension.

E-MYCIN (erythromycin) 400 mg film coated tablet.

2. **Qualitative and Quantitative Composition**

E-MYCIN 200 granules for oral suspension, containing erythromycin ethylsuccinate 234 mg per 5 mL, equivalent to 200 mg per 5 mL of erythromycin.

E-MYCIN 400 granules for oral suspension, containing erythromycin ethylsuccinate 468 mg per 5 mL, equivalent to 400 mg per 5 mL of erythromycin.

Each E-MYCIN film-coated tablet contains erythromycin ethylsuccinate 482 mg, equivalent to 400 mg of erythromycin.

For the full list of excipients, see section 6.1.

3. **Pharmaceutical Form**

E-MYCIN 200: Granules for oral suspension. Free flowing pink granules which when mixed with the stated quantity of water provide a cherry flavoured suspension containing erythromycin ethylsuccinate.

E-MYCIN 400: Granules for oral suspension. Free flowing pink granules which when mixed with the stated quantity of water provide a cherry flavoured suspension containing erythromycin ethylsuccinate.

E-MYCIN tablet oval, normal convex, flesh pink film-coated tablet debossed "E-N" on one side and "α" on the other.

4. **Clinical Particulars**

4.1 **Therapeutic Indications**

*Streptococcus pyogenes* (Group A beta-haemolytic streptococcus)

Upper and lower respiratory tract, skin and soft tissue infections of mild to moderate severity. When oral medication is preferred for treatment of streptococcal pharyngitis and in long term prophylaxis of rheumatic fever, erythromycin is an alternate drug of choice.

When oral medication is given, the importance of strict adherence by the patient to the prescribed dosage regimen must be stressed. A therapeutic dose should be administered for at least 10 days.
Prevention of Initial Attacks of Rheumatic Fever
Penicillin is considered to be the drug of choice in the prevention of initial attacks of rheumatic fever (treatment of Group A beta-haemolytic streptococcal infections of the upper respiratory tract e.g. tonsillitis or pharyngitis). Erythromycin is indicated for the treatment of penicillin-allergic patients. The therapeutic dose should be administered for 10 days.

Prevention of Recurrent Attacks of Rheumatic Fever
Penicillin or sulphonamides are considered to be the drugs of choice in the prevention of recurrent attacks of rheumatic fever. In patients who are allergic to penicillin and sulphonamides, oral erythromycin is recommended in the long term prophylaxis of streptococcal pharyngitis (for the prevention of recurrent attacks of rheumatic fever).

Prevention of Bacterial Endocarditis
Although no controlled clinical efficacy trials have been conducted, oral erythromycin has been recommended for prevention of bacterial endocarditis in penicillin-allergic patients with prosthetic cardiac valves, most congenital cardiac malformations, surgically constructed systemic pulmonary shunts, rheumatic or other acquired valvular dysfunction, idiopathic hypertrophic subaortic stenosis (IHSS), previous history of bacterial endocarditis or mitral valve prolapse with insufficiency when they undergo dental procedures or surgical procedures of the upper respiratory tract.

Alpha-haemolytic streptococci (viridans group)
Although no controlled clinical efficacy trials have been conducted, oral erythromycin has been suggested for use in a regimen for prophylaxis against bacterial endocarditis in patients hypersensitive to penicillin who have congenital heart disease, or rheumatic or other acquired valvular heart disease when they undergo dental procedures or surgical procedures of the upper respiratory tract. Erythromycin is not suitable prior to genitourinary or gastrointestinal tract surgery.

Staphylococcus aureus
Acute infections of skin and soft tissue of mild to moderate severity. Resistant organisms may emerge during treatment.

Streptococcus pneumoniae (Diplococcus pneumoniae)
Upper respiratory tract infections (e.g. otitis media, pharyngitis) and lower respiratory tract infections (e.g. pneumonia) of mild to moderate degree.

Mycoplasma pneumoniae (Eaton agent, PPLO)
For respiratory infections due to this organism.

Haemophilus influenzae
For upper respiratory tract infections of mild to moderate severity. Not all strains of this organism are susceptible to erythromycin at concentrations achieved with usual therapeutic doses; resistant strains may require concomitant therapy with sulphonamides.

Ureaplasma urealyticum
For the treatment of urethritis caused by these organisms in adult males.

Neisseria gonorrhoeae
ERA-IV (erythromycin lactobionate for injection) in conjunction with erythromycin orally, as an alternative drug in treatment of acute pelvic inflammatory disease caused by N. gonorrhoeae in female patients with a history of sensitivity to penicillin. Before treatment of gonorrhoea, patients who are suspected of also having syphilis should have a microscopic examination for T. pallidum (by immunofluorescence or darkfield) before receiving erythromycin, and monthly serologic tests for a minimum of 4 months thereafter.
**Chlamydia trachomatis**
Erythromycin is indicated for treatment of the following infections caused by Chlamydia trachomatis; conjunctivitis of the newborn, pneumonia of infancy and urogenital infections during pregnancy (see section 4.4). When tetracyclines are contraindicated or not tolerated, erythromycin is indicated for the treatment of uncomplicated urethral, endocervical or rectal infections in adults due to Chlamydia trachomatis.

**Treponema pallidum**
Erythromycin is an alternate choice of treatment for primary syphilis in patients allergic to the penicillins. In treatment of primary syphilis, spinal fluid examinations should be done before treatment and as part of follow-up therapy. Erythromycin should not be used for the treatment of syphilis in pregnancy because it cannot be relied upon to cure an infected foetus.

**Corynebacterium diphtheriae**
As an adjunct to antitoxin, to prevent establishment of carriers, and to eradicate the organism in carriers.

**Corynebacterium minutissimum**
For the treatment of erythrasma.

**Entamoeba histolytica**
In treatment of intestinal amoebiasis only. Extra-enteric amoebiasis requires treatment with other agents.

**Listeria monocytogenes**
Infections due to this organism.

**Bordetella pertussis**
Erythromycin is effective in eliminating the organism from the nasopharynx of infected individuals, rendering them non-infectious. Some clinical studies suggest that erythromycin may be helpful in the prophylaxis of pertussis in exposed susceptible individuals.

**Legionnaire’s Disease**
Clinical evidence suggests that erythromycin is the preferred antibiotic for treating Legionnaire’s Disease.

### 4.2 Dose and method of administration

**Dose**

**Adults**

400 mg erythromycin (as erythromycin ethylsuccinate) every 6 hours is the usual dose. Dosage may be increased up to 4 g per day according to the severity of the infection. If twice-a-day dosage is desired, one-half of the total daily dose may be given every 12 hours. Doses may also be given three times daily by administering one-third of the total daily dose every 8 hours.

In the treatment of streptococcal infections, a therapeutic dosage of erythromycin (as erythromycin ethylsuccinate) should be administered for at least 10 days. In continuous prophylaxis against recurrences of streptococcal infections in persons with a history of rheumatic heart disease, the usual dosage is 400 mg twice a day.

For prophylaxis against bacterial endocarditis in patients with congenital heart disease, or rheumatic or other acquired valvular heart disease when undergoing dental procedures or surgical
procedures of the upper respiratory tract, give 1.6 g (20 mg/kg for children) orally 1.5 to 2 hours before the procedure, and then 800 mg (10 mg/kg for children) orally every 6 hours for 8 doses.

For treatment of urethritis due to *C. trachomatis* or *U. urealyticum* 800 mg every 6 to 8 hours for 7 days or 400 mg every 6 to 8 hours for 14 days.

For treatment of primary syphilis: Adults 48 to 64 g given in divided doses over a period of 10 to 15 days.

For intestinal amoebiasis: Adults 400 mg four times daily for 10 to 14 days. Children 30 to 50 mg/kg/day in divided doses for 10 to 14 days.

For use in pertussis: Although optimal dosage and duration have not been established, doses of erythromycin utilized in reported clinical studies were 40 to 50 mg/kg/day, given in divided doses for 5 to 14 days.

For treatment of Legionnaire’s Disease: Although optimal doses have not been established, doses utilized in reported clinical data were 1.6 to 4 g daily in divided doses.

**Special Populations Paediatric**

Age, weight, and severity of the infection are important factors in determining the proper dosage. In mild to moderate infections the usual dosage of erythromycin (as erythromycin ethylsuccinate) for children is 30 to 50 mg/kg/day in equally divided doses every six hours. For more severe infections this dosage may be doubled.

If twice-a-day dosage is desired one-half of the total daily dose may be given every 12 hours. Doses may also be given three times daily if desired by administering one-third of the total daily dose every 8 hours.

The following dosage schedule is suggested for mild to moderate infections

<table>
<thead>
<tr>
<th>Body weight</th>
<th>Total daily dose (erythromycin base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4.5kg</td>
<td>30-50 mg/kg/day</td>
</tr>
<tr>
<td>4.5 - 6.8kg</td>
<td>200 mg</td>
</tr>
<tr>
<td>6.8 - 11.3kg</td>
<td>400 mg</td>
</tr>
<tr>
<td>11.3 – 22.7kg</td>
<td>800 mg</td>
</tr>
<tr>
<td>22.7 - 45.4kg</td>
<td>1200 mg</td>
</tr>
<tr>
<td>Over 45.4kg</td>
<td>1600 mg</td>
</tr>
</tbody>
</table>

**Method of Administration**

E-MYCIN suspensions and tablets may be administered without regard to meals.

**4.3 Contraindications**

Erythromycin is contraindicated in patients with known hypersensitivity to erythromycin or any of the excipients in the formulation (listed in section 6.1), or to other antibiotics from the macrolide family.

Severely impaired hepatic function.
Concurrent treatment with cisapride, pimozide, and ergotamine or dihydroergotamine is contraindicated (see section 4.4).

### 4.4 Special warnings and precautions for use

There have been reports of hepatic dysfunction, including increased liver enzymes, and hepatocellular and/or cholestatic hepatitis, with or without jaundice occurring in patients receiving oral erythromycin products. Since erythromycin is principally excreted by the liver, caution should be exercised when erythromycin is administered to patients with impaired liver function.

Rhabdomyolysis with or without renal impairment has been reported in seriously ill patients receiving erythromycin concomitantly with lovastatin. Therefore, patients receiving concomitant lovastatin and erythromycin should be carefully monitored for creatine kinase (CK) and serum transaminase levels (see section 4.5).

The use of erythromycin can lead to the development of severe colitis as a result of colonisation with *C. difficile*, a toxin-producing organism. The colitis, which may or may not be accompanied by the formation of a pseudomembrane in the colon, can be fatal. If significant diarrhoea occurs (this may, however, begin up to several weeks after cessation of antibiotic therapy) erythromycin should be discontinued. This may be sufficient treatment in the early stages although cholestyramine orally may help by binding the toxin in the colonic lumen. In moderate to severe cases appropriate therapy with a suitable oral antibacterial agent effective against *C. difficile* should be considered.

Erythromycin appears to be principally degraded and excreted by the liver. Therefore it should be avoided in patients with impaired hepatic function.

Overgrowth of non-susceptible bacteria or fungi may occur during prolonged or repeated therapy. If superinfection occurs, erythromycin should be discontinued and appropriate therapy instituted.

Oral erythromycin is not considered to be the antibiotic of choice in critically ill patients. When indicated, incision and drainage or other surgical procedures should be performed in conjunction with antibiotic therapy.

There have been reports that erythromycin may aggravate the weakness of patients with myasthenia gravis.

Increased INR levels have been reported in patients when erythromycin and coumarin anticoagulants are used concomitantly. Patients using erythromycin and coumarin anticoagulants should be closely monitored (see section 4.5).

### Prolongation of the QT interval

Ventricular arrhythmias associated with prolonged QT interval, including ventricular tachycardia and torsades de pointes have been reported with macrolide products including erythromycin. Prescribers should consider the risk of QT prolongation (which can be fatal) when weighing the risks and benefits of erythromycin for at-risk groups including:

- Patients predisposed to QT interval prolongation such as those with a history of torsades de pointes or congenital long QT syndrome
- Patients taking other medications known to prolong the QT interval such as antiarrhythmics of classes IA and III; antipsychotic agents; antidepressants; and fluoroquinolones (see section 4.5)
- Patients with electrolyte disturbance, particularly in cases of hypokalaemia and hypomagnesaemia
- Patients with clinically relevant bradycardia, cardiac arrhythmia or cardiac insufficiency.

### Laboratory tests

Erythromycin interferes with the fluorometric determination of urinary catecholamines.
4.5 Interaction with other medicines and other forms of interaction

QT prolonging medicines

There is a rare risk of serious cardiovascular adverse events, including QT interval prolongation, cardiac arrest, torsades de pointes and cardiac arrhythmias, with erythromycin alone and with the concomitant administration of erythromycin with other medicines that prolong the QT interval. Examples of medicines that prolong the QT interval include class IA and III antiarrhythmics (e.g. amiodarone), antipsychotics (e.g. risperidone, haloperidol), antidepressants (e.g. citalopram) and fluoroquinolones (e.g. ciprofloxacin) (see section 4.4).

Theophylline

Recent data from studies of erythromycin reveal that its use in patients who are receiving high doses of theophylline may be associated with an increase in serum theophylline levels and potential theophylline toxicity. In case of theophylline toxicity and/or elevated serum theophylline levels, the dose of theophylline should be reduced while the patient is receiving concomitant erythromycin therapy.

There have been published reports suggesting that when oral erythromycin is given concomitantly with theophylline there is a significant decrease in erythromycin serum concentrations. This decrease could result in subtherapeutic concentrations of erythromycin.

Carbamazepine

Erythromycin administration in patients receiving carbamazepine has been reported to cause increased serum levels of carbamazepine with subsequent development of signs of carbamazepine toxicity.

Digoxin

Concomitant administration of erythromycin and digoxin has been reported to result in elevated digoxin serum levels.

Anticoagulants

There have been reports of increased anticoagulant effects when erythromycin and warfarin were used concomitantly.

Triazolam

Triazolam plasma concentrations may approximately double when erythromycin is co-administered, due to a reduction in clearance and increase in elimination half-life but drug accumulation has not been observed with repeated dosing. Therefore consideration of dose reduction may be appropriate in patients treated concurrently with triazolam and erythromycin.

Drugs metabolised by the cytochrome P450

The use of erythromycin in patients concurrently taking drugs metabolised by the cytochrome P450 system may be associated with elevations in serum levels of these drugs. There have been reports that there is a rise in serum levels of carbamazepine, cyclosporine, hexobarbital, phenytoin, alfentanil, disopyramide, bromocriptine, valproate, tacrolimus, quinidine, methylprednisolone, cilostazol, vinblastine, sildenafil, rifabutin, verapamil and diltiazem (drugs metabolised by the cytochrome P450 system) during concomitant administration of erythromycin.

Ergotamine / dihydroergotamine

Concurrent use of erythromycin and ergotamine or dihydroergotamine has been associated in some patients with acute ergot toxicity characterised by severe peripheral vasospasm and dysaesthesia (see section 4.3).
Zopiclone
Erythromycin has been reported to decrease the clearance of zopiclone and this may increase the pharmacodynamic effects of this drug.

Cisapride
Elevated cisapride levels have been reported in patients receiving erythromycin and cisapride concomitantly. This may result in QT prolongation and cardiac arrhythmias including ventricular tachycardia, ventricular fibrillation and torsade de pointes. Similar effects have been observed in patients taking pimozide and clarithromycin, another macrolide antibiotic.

HMG-CoA Reductase Inhibitors
Erythromycin has been reported to increase concentrations of HMG-CoA Reductase Inhibitors (e.g. lovastatin and simvastatin). Rare reports of rhabdomyolysis have been reported in patients taking these drugs concomitantly.

Colchicine
There have been post-marketing reports of colchicine toxicity with concomitant use of erythromycin and colchicine.

4.6 Fertility, pregnancy and lactation

Pregnancy

Category A

Drugs which have been taken by a large number of pregnant women and women of childbearing age without any proven increase in the frequency of malformations or other direct or indirect harmful effects on the foetus having been observed.

No evidence of teratogenicity or embryotoxicity was observed when erythromycin base was given by oral gavage to pregnant rats and mice at 700 mg/kg/day (approximately 9 times the maximum human dose), and to pregnant rabbits at 125 mg/kg/day (approximately 1.5 times the maximum human dose).

A slight reduction in birth weights was noted when female rats were treated prior to mating, during mating, gestation and lactation at an oral dosage of 700 mg/kg/day of erythromycin base; weights of the offspring were comparable to those of the controls by weaning. No evidence of teratogenicity or effects on reproduction were noted at this dosage. When administered during late gestation and lactation periods, this dosage of 700 mg/kg/day (approximately 9 times the maximum human dose) did not result in any adverse effects on birth weight, growth and survival of offspring.

There are no adequate and well-controlled studies in pregnant women. However, observational studies in humans have reported cardiovascular malformations after exposure to medicinal products containing erythromycin during early pregnancy.

Erythromycin has been reported to cross the placental barrier in humans, but foetal plasma levels are generally low.

Erythromycin should be used by women during pregnancy only if clearly needed.

Breast-feeding
Erythromycin is excreted in breast milk. Caution should be exercised when erythromycin is administered to a nursing woman.
Effects on the Neonate

There have been reports of infantile hypertrophic pyloric stenosis (IHPS) occurring in infants following erythromycin therapy. In one cohort of 157 newborns who were given erythromycin for pertussis prophylaxis, seven neonates (5%) developed symptoms of non-bilious vomiting or irritability with feeding and were subsequently diagnosed as having IHPS requiring surgical pyloromyotomy. Since erythromycin may be used in the treatment of conditions in infants, which are associated with significant mortality or morbidity (such as pertussis or chlamydia), the benefit of erythromycin therapy needs to be weighed against the potential risk of developing IHPS. Patients should be informed to contact their physician if vomiting or irritability with feeding occurs.

4.7 Effects on ability to drive and use machines

Not relevant.

4.8 Undesirable effects

The most frequent side effects of erythromycin preparations are gastrointestinal, such as abdominal cramping and discomfort, and are dose-related. Nausea, vomiting, and diarrhoea occur infrequently with usual oral doses.

There have been reports of hepatic dysfunction, with or without jaundice, occurring in patients receiving oral erythromycin products. Symptoms of hepatitis, hepatic dysfunction and/or abnormal liver function test results may occur.

During prolonged or repeated therapy, there is a possibility of overgrowth of non-susceptible bacteria or fungi. If such infections occur, the drug should be discontinued and appropriate therapy instituted.

Allergic reactions ranging from urticaria and mild skin eruptions to anaphylaxis have occurred. Skin reactions ranging from mild eruptions to erythema multiforme, Stevens-Johnson syndrome and toxic epidermal necrolysis have been reported rarely.

Occasional case reports of cardiac arrhythmias, such as ventricular tachycardia have been documented in patients receiving erythromycin therapy. There have been isolated reports of other cardiovascular symptoms such as chest pain, dizziness and palpitations; however a causal relationship has not been established.

As with other macrolides, QT prolongation, ventricular tachycardia and torsades de pointes have been rarely reported with erythromycin (see section 4.4).

There have been isolated reports of reversible hearing loss occurring chiefly in patients with renal insufficiency and in patients receiving high doses of erythromycin. Central nervous system side effects, including seizures, hallucinations, confusion, vertigo, and tinnitus have been reported in occasional patients; however, a cause and effect relationship has not been established.

There have been rare reports of pancreatitis and convulsions.

Infantile Hypertrophic Pyloric Stenosis (IHPS)

7 out of 157 [5%] newborns developed severe non-bilious vomiting or irritability with feeding and IHPS who were given oral erythromycin for pertussis prophylaxis. The relative risk of IHPS was increased 6.8 fold (95% CI=3-16) compared to a retrospective cohort of infants. There have been reports of interstitial nephritis coincident with erythromycin use.

Reporting of suspected adverse reactions - Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Healthcare professionals are asked to report any suspected adverse reactions https://nzphvc.otago.ac.nz/reporting/
4.9 Overdose
Reports indicate that the ingestion of large amounts of erythromycin can be expected to produce gastrointestinal distress, hearing problems and other adverse effects (see section 4.8). In case of overdosage, erythromycin should be discontinued. Allergic reactions accompanying overdosage should be treated by the prompt elimination of unabsorbed drug and supportive measures. Erythromycin serum levels are not appreciably altered by haemodialysis or peritoneal dialysis.

For further advice on management of overdose please contact the National Poisons Information Centre (0800 POISON or 0800 764 766).

5. Pharmacological Properties

5.1 Pharmacodynamic properties
Pharmacotherapeutic group: Macrolides, ATC code: J01FA01

Mechanism of action

Microbiology

Erythromycin binds to the 50S ribosomal sub-units of susceptible bacteria and suppresses protein synthesis. The mode of action of erythromycin is by inhibition of the protein synthesis without affecting nucleic acid synthesis. Erythromycin is usually active in vitro against the following Gram positive and Gram negative organisms:

- *Streptococcus pyogenes*
- *Alpha-haemolytic streptococci* (viridans group)
- *Staphylococcus aureus*
- *Streptococcus pneumoniae*
- *Corynebacterium diphtheriae* (as an adjunct to antitoxin)
- *Corynebacterium minutissimum*
- *Listeria monocytogenes*
- *Clostridium tetani*
- *Neisseria gonorrhoeae*
- *Bordetella pertussis*
- *Haemophilus influenzae* (some strains are resistant)
- *Legionella pneumophila*  *Treponema pallidum*
- *Chlamydia trachomatis*
- *Mycoplasma pneumoniae*
- *Campylobacter jejuni* (in severe or prolonged cases)
- *Ureaplasma urealyticum*

Not all strains of the organism listed above are sensitive and culture and susceptibility testing should be done. Several strains of *Haemophilus influenzae* and *Staphylococci* have been found to be resistant to erythromycin. *Staphylococci* resistant to erythromycin may emerge during a course of therapy. Antagonism has been demonstrated *in vitro* between erythromycin and clindamycin, lincomycin and chloramphenicol.

Susceptibility Testing

Dilution or diffusion techniques - either quantitative (MIC) or breakpoint, should be used following a regular updated, recognized and standardised method (e.g. CLSI).

Standardised susceptibility test procedures require the use of laboratory control microorganisms to control the technical aspects of the laboratory procedures.
• A report of "Susceptible" indicates that the pathogen is likely to be inhibited if the antimicrobial compound in the blood reaches the concentrations usually achievable.
• A report of "Intermediate" indicates that the result should be considered equivocal, and if the microorganism is not fully susceptible to alternative clinically feasible drugs, the test should be repeated. This category implies possible clinical applicability in body sites where the drug is physiologically concentrated or in situations where high dosage of drug can be used. This category also provides a buffer zone, which prevents small-uncontrolled technical factors from causing major discrepancies in interpretation.
• A report of "Resistant" indicates that the pathogen is not likely to be inhibited if the antimicrobial compound in the blood reaches the concentrations usually achievable: other therapy should be selected.

Note 1: The prevalence of resistance may vary geographically for selected species and local information on resistance is desirable, particularly when treating severe infections.

Note 2: Many strains of *Haemophilus influenzae* are resistant to erythromycin alone but are susceptible to erythromycin and sulfonamides together. Staphylococci resistant to erythromycin may emerge during a course of erythromycin therapy. Culture and susceptibility testing should be performed.

### 5.2 Pharmacokinetic properties

Following oral administration, erythromycin ethyl succinate is absorbed intact and undergoes hydrolysis to yield the active erythromycin base. Individual peak serum levels show considerable variability; the peak after each dose occurs in 1-2 hours. The extent of plasma protein binding has been variably reported but is probably of the order of 75%. Erythromycin diffuses readily into most body fluids with the exception of cerebrospinal fluid, synovial fluid and vitreous humor. In the presence of normal renal function, the plasma half-life is approximately 1.4 hours; this may increase to 6 hours in anuric patients but does not usually require dosage adjustment. Erythromycin is not removed by dialysis.

In the presence of normal hepatic function, erythromycin is concentrated in the liver and high concentrations appear in the bile. However, approximately 1.5% of the absorbed erythromycin can be recovered unchanged in bile over a period of 8 hours. Substantial quantities appear in the faeces and probably represent the unabsorbed drug plus the drug excreted into the bile. Approximately 5% of an orally administered dose appears in the urine. A large proportion of the absorbed drug remains unaccounted for and is presumably metabolised, probably in the liver.

Erythromycin appears in breast milk at levels which are approximately 50% of the plasma concentration. It crosses the placenta and fetal plasma levels are usually 5%-20% of the maternal plasma concentration.

### 5.3 Preclinical safety data

**Carcinogenicity**

Long term (2 year) oral studies conducted in rats up to about 400 mg/kg/day and in mice up to about 500 mg/kg/day with erythromycin stearate did not provide evidence of tumourigenicity.

**Genotoxicity**

Erythromycin was not genotoxic in assays for bacterial and mammalian mutagenicity and for clastogenicity *in vitro*. The clastogenic potential of erythromycin has not been investigated *in vivo*.

**Fertility**

There was no apparent effect on male or female fertility in rats treated with erythromycin base by oral gavage at 700 mg/kg/day (approximately 9 times the maximum human dose).
6. Pharmaceutical Particulars

6.1 List of excipients
E-MYCIN tablets
Calcium hydrogen phosphate anhydrous, maize starch, sorbic acid, povidone, purified talc, sodium starch glycollate and magnesium stearate. The film coating also contains polyvinyl alcohol, titanium dioxide, lecithin, iron oxide red and xanthan gum.

E-MYCIN tablets do not contain lactose or gluten.

E-MYCIN suspensions
Sorbitol, sodium citrate dihydrate, aspartame, propylene glycol alginate, silicon dioxide colloidal, sodium benzoate, erythrosine CI45430 and cherry flavour (contains preservative 320).

E-MYCIN suspensions do not contain lactose or gluten. 6.2

Incompatibilities
Not applicable.

6.3 Shelf life
E-MYCIN suspension 18 months.
E-MYCIN tablets 36 months.

Reconstituted suspension
Reconstituted suspension should be refrigerated at 2° - 8°C and used within 10 days; do not freeze. Discard remaining portion thereafter. Shake well before use.

6.4 Special precautions for storage
Store tablets below 30°C.
Store granules below 25°C.

For storage conditions after reconstitution of the medicine, see section 6.3.

6.5 Nature and contents of container
E-MYCIN 200 mg per 5 mL and 400 mg per 5 mL, granules for oral suspension: HDPE bottle with a screw cap. Pack size 100 mL when reconstituted.

E-MYCIN 400 mg tablets: HDPE bottle with a screw cap. Pack-size of 100 film-coated tablets.

Not all pack types and sizes may be marketed.

6.6 Special precautions for disposal and other handling
No special requirements for disposal.

Reconstitution of granules
Add 77 mL of water in small volumes and shake vigorously until no lumps are visible.

Any unused medicine or waste material should be disposed of in accordance with local requirements.
7. Medicines Schedule

Prescription Medicine

8. Sponsor Details

Mylan New Zealand Ltd PO
Box 11-183
Ellerslie
AUCKLAND
Telephone 09-579-2792

9. Date of First Approval

24 August 1995

10. Date of Revision of the Text

28 November 2016  Revise to SmPC format
                 Revised section 4.4.