SUMMARY OF PRODUCT CHARACTERISTICS

1. Name of the medicinal product

MICYCLINE 50 (MINOCYCLINE TABLETS BP 50 MG)

2. Qualitative and quantitative composition

Each film coated tablet contains:

Minocycline hydrochloride BP

Eq to minocycline 50 mg

Excipients Q.S

Colour: lake of erythrosine FCF, Lake of Quinoline yellow & Titanium dioxide BP

(for the full list of excipients, see section 6.1)

3. Pharmaceutical form

Film coated Tablets

A Light brown coloured, round shaped, biconvex film coated tablet.

4. Clinical particulars

4.1 Therapeutic indications

Minocycline is a broad spectrum antibiotic used for the treatment of infections caused by tetracycline-sensitive organisms. Some tetracycline-resistant strains of Staphylococci are also sensitive.

Minocycline is indicated for the treatment of the following infections:

1) Gonorrhoea.
2) Non-gonococcal urethritis.
3) Prostatitis.
4) Moderate to severe acne; use in moderate acne only if topical treatment is ineffective, if acne is extensive or hard to reach and if there is a high risk of scarring.
5) Acute and chronic bronchitis.
6) Bronchiectasis.
7) Lung abscess.
8) Pneumonia.
9) Ear, nose and throat infections.
10) Urinary tract infections.
11) Pelvic inflammatory disease (eg salpingitis, oophoritis).
12) Skin and soft tissue infections caused by minocycline sensitive organisms.
13) Ophthalmic infections.
14) Nocardiosis.
15) Prophylactic treatment of asymptomatic meningococcal carriers.
16) Pre and post-operative prophylaxis of infection.

Minocycline should be used only to treat or prevent infections that are proven or strongly suspected to be caused by susceptible bacteria.

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

4.2 Posology and method of administration
Posology

Dosage: Adults: One 100 mg capsule every 24 hours.

Children over 12 years: One 100 mg capsule every 24 hours.

Children under 12 years: Micycline 100 is not recommended.

Elderly: No special dosing requirements.

Administration:

To reduce the risk of oesophageal irritation and ulceration, the capsules should be swallowed whole with plenty of fluid, while sitting or standing. Unlike earlier tetracyclines, absorption of minocycline is not significantly impaired by food or moderate amounts of milk. Treatment of acne should be continued for a minimum of 6 weeks and where possible limited to a maximum of six months.

If, after six months, there is no satisfactory response Micycline 100 should be discontinued and other therapies considered. If Micycline 100 is to be continued for longer than six months, patients should be monitored (including laboratory investigations) at least three monthly thereafter for signs and symptoms of hepatitis or SLE or unusual pigmentation (see Special warnings and precautions for use).

4.3 Contraindications

• Hypersensitivity to the active substance, to tetracycline's or to any of the excipients listed in section 6.1.
• Pregnancy and lactation.
• Children under 12 years.
• Complete renal failure.

4.4 Special warnings and precautions for use

• Patients with rare heriditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine.
• *Breathing difficulties:* Cases of breathing difficulties including dyspnoea, bronchospasm, exacerbation of asthma, pulmonary eosinophilia and pneumonitis (see section 4.8) have been reported with minocycline use. If patients develop breathing difficulties, they should seek urgent medical advice and minocycline should be discontinued
• *Paediatric population:* The use of tetracyclines during tooth development in children under the age of 12 years may cause permanent discoloration (see above). Enamel hypoplasia has been reported.
• *Use in Hepatic Dysfunction:* Minocycline should be used with caution in patients with hepatic dysfunction and in conjunction with alcohol and other hepatotoxic drugs.
• *Auto –immune Disorders:* Rare cases of auto-immune hepatotoxicity and isolated cases of systemic lupus erythematosus (SLE) and also exacerbation or pre-existing SLE have been reported. If patients develop signs or symptoms of SLE or hepatotoxicity, or suffer exacerbation or pre-existing SLE, minocycline should be discontinued.

• *Renal Impairment:* Clinical studies have shown that there is no significant drug accumulation in patients with renal impairment when they are treated with minocycline in the recommended doses. In cases of severe renal insufficiency, reduction of dosage and monitoring of renal function may be required.
• *Cross-sensitivities:* Cross-resistance between tetracyclines may develop in micro-organisms and cross-sensitisation in patients. Minocycline should be discontinued if there are signs/symptoms of overgrowth of resistant organisms, enteritis *e*gglossitis, stomatitis, vaginitis, pruritus ani or staphylococcal enteritis.
• *Myasthenia Gravis:* Tetracyclines can cause weak neuromuscular blockade - use with caution in Myasthenia Gravis.
• Intracranial hypertension: As with other tetracyclines, bulging fontanelles in infants and benign intracranial hypertension in juveniles and adults have been reported. Presenting features were headache and visual disturbances including blurring of vision, scotoma and diplopia. Permanent vision loss has been reported. Treatment should cease if evidence of raised intracranial pressure develops.
• *Hyperpigmentation:* As with other tetracyclines, minocycline may cause hyperpigmentation at various body sites (see also sections 4.2 and 4.8). Hyperpigmentation may present regardless of dose or duration of therapy but develops more commonly during long term treatment. Patients should be advised to report any unusual pigmentation without delay and minocycline should be discontinued. This is generally reversible on cessation of therapy.
• *Photosensitivity:* If photosensitivity occurs, patients should be warned to avoid direct exposure to natural or artificial light and to discontinue therapy at the first sign of discomfort.

4.5 Interaction with other medicinal products and other forms of interaction

• ACE Inhibitors- absorption of minocycline decreased by quinapril tablets (which contains magnesium carbonate).
• Antacids and Adsorbants - absorption of minocycline is impaired by the concomitant administration of antacids, iron, calcium, aluminium, magnesium and zinc salts (interactions with specified salts, antacids and kaolin). Dosages should be maximally separated.
• Antibacterials - minocycline should not be used with penicillins.
• Anticoagulants - tetracyclines depress plasma prothrombin activity and reduced dosages of concomitant anticoagulants may be necessary
• Diuretics – may aggravate nephrotoxicity by volume depletion.
• Ergotamine and ergometrine – increased risk of ergotism.
• Oral Contraceptives - both can induce hyperpigmentation.
• Retinoids - Administration of isotretinoin should be avoided shortly before, during and shortly after minocycline therapy. Each drug alone has been associated with pseudotumor cerebri (benign intracranial hypertension) (see 4.4 Special warnings and precautions)
• Ulcer healing Drugs – absorption of minocycline decreased by sucralfate and bismuth salts.
• Laboratory tests - may affect urinary urobilinogen excretion tests by reducing bacterial converters of bilirubin to urobilinogen. May also produce an interference fluorescence in the Hungarty methods for measuring urinary catecholamines.

4.6 Fertility, pregnancy and lactation

<u>Pregnancy</u>

Results of animal studies indicate that tetracyclines cross the placenta and are found in foetal tissues and can have toxic effects on the developing foetus (often related to retardation of skeletal development). Evidence of embryotoxicity has also been noted in animals treated early in pregnancy. Minocycline should not therefore be used in pregnancy unless considered essential.
The use of drugs of the tetracycline class during tooth development (last half of pregnancy) may cause permanent discoloration of the teeth (yellow-grey brown). This adverse reaction is more common during long-term use of the drugs but has been observed following repeated short-term courses. Enamel hypoplasia has also been reported.
Breast-feeding
Tetracyclines have been found in the milk of lactating women who are taking a drug in this class. Permanent tooth discoloration may occur in the developing infant and enamel hypoplasia has been reported.

4.7 Effects on ability to drive and use machines

Light headedness, visual disturbances, dizziness, tinnitus and vertigo have occurred with minocycline and patients should be warned about the possible hazards of driving or operating machinery during treatment.

4.8 Undesirable effects

Adverse reactions are listed in the Table in CIOMS frequency categories under MedDRA system/organ classes.
The frequency of adverse reactions Minocycline Tablets is defined using the following convention:
Common: (≥1/100 to <1/10)
Uncommon: (≥1/1,000 to <1/100)
Rare: (≥1/10,000 to <1/1,000)
Very Rare: (<1/10,000)
Not known (cannot be estimated from the available data)

MedDRA system organ class	**Adverse Drug Reaction**
Infections and infestations	
Very rare	*Oral and anogenital candidiasis, vulvovaginitis.*
Blood and lymphatic system disorders	
Rare	*Eosinophilia, leucopenia, neutropenia, thrombocytopenia*
Very rare	Haemolytic anaemia, pancytopenia.
Not known (cannot be estimated from the available data)	Agranulocytosis
Immune system disorders	
Rare	Anaphylaxis/anaphylactoid reaction (including shock and fatalities).
Not known (cannot be estimated from the available	Hypersensitivity, pulmonary infiltrates,

data)	anaphylactoid purpura, polyarteritis nodosa.
Endocrine disorders	
Very rare	Abnormal thyroid function, brown-black discolouration of the thyroid.
Metabolism and nutrition disorders	
Rare	Anorexia.
Nervous system disorders	
Common	Dizziness (lightheadedness).
Rare	Headache, hypaesthesia, paraesthesia, intracranial hypertension, vertigo.
Very rare	Bulging fontanelle.
Not known (cannot be estimated from the available data)	Convulsions, sedation.
Ear and labyrinth disorders	
Rare	Impaired hearing, tinnitus.
Cardiac disorders	
Rare	Myocarditis, pericarditis.
Respiratory, thoracic and mediastinal disorders	
Rare	Cough, dyspnoea.
Very rare	Bronchospasm, exacerbation of asthma, pulmonary eosinophilia.
Not known (cannot be estimated from the available data)	Pneumonitis.
Gastrointestinal disorders	
Rare	Diarrhoea, nausea, stomatitis, discolouration of teeth, vomiting.
Very rare	Dyspepsia, dysphagia, enamel hypoplasia, enterocolitis, oesophagitis, oesophageal ulceration, glossitis, pancreatitis, pseudomembranous colitis.
Hepatobiliary disorders	
Rare	Increased liver enzymes, hepatitis, autoimmune hepatoxicity. (See Section 4.4 Special warnings and Special precautions for use).
Very rare	Hepatic cholestatis, hepatic failure (including fatalities), hyperbilirubinaemia, jaundice.
Not known	*Autoimmune hepatitis
Skin and subcutaneous tissue disorders	
Rare	Alopecia, erythema multiforme, erythema nodosum, fixed drug eruption, hyperpigmentation of skin, photosensitivity, pruritis, rash, urticaria, vasculitis.

Very rare	Angioedema, exfoliative dermatitis, hyperpigmentation of nails, Stevens-Johnson Syndrome, toxic epidermal necrolysis.
Not known	Drug rash with eosinophilia and systemic symptoms (DRESS)
Musculoskeletal and connective tissue disorders	
Rare	Arthralgia, lupus-like syndrome, myalgia.
Very rare	Arthritis, bone discolouration, cases of or exacerbation of systemic lupus erythematosus (SLE)(See Section 4.4 Special warnings and precautions for use), joint stiffness, joint swelling.
Renal and urinary disorders	
Rare	Increased serum urea, acute renal failure, interstitial nephritis.
Reproductive system and breast disorders	
Very rare	Balanitis.
General disorders and administration site conditions	
Uncommon	Fever
Very rare	Discolouration of secretions.

* Autoimmune hepatitis: See Section 4.4 Special warnings and precautions for use

The following syndromes have been reported. In some cases, involving these syndromes, death has been reported. As with other serious adverse reactions, if any of these syndromes are recognised, the drug should be discontinued immediately:

• Hypersensitivity syndrome consisting of cutaneous reaction (such as rash or exfoliative dermatitis), eosinophilia, and one or more of the following: hepatitis, pneumonitis, nephritis, myocarditis, pericarditis. Fever and lymphadenopathy may be present.

• Lupus-like syndrome consisting of positive antinuclear antibody, arthralgia, arthritis, joint stiffness or joint swelling, and one or more of the following: fever, myalgia, hepatitis, rash, vasculitis.

• Serum sickness-like syndrome consisting of fever, urticaria or rash, and arthralgia, arthritis, joint stiffness or joint swelling. Eosinophilia may be present.

Hyperpigmentation of various body sites including the skin, nails, teeth, oral mucosa, bones, thyroid, eyes (including sclera and conjunctiva), breast milk, lacrimal secretions and perspiration has been reported. This blue/black/grey or muddy-brown discolouration may be localised or diffuse. The most frequently reported site is in the skin. Pigmentation is often reversible on discontinuation of the drug, although it may take several months or may persist in some cases. The generalised muddy-brown skin pigmentation may persist, particularly in areas exposed to the sun.

Reporting of suspected adverse reactions

Healthcare professionals are requested to report any suspected adverse reactions to report any suspected adverse reactions to the National Regulatory Agents.

4.9 Overdose

Dizziness, nausea and vomiting are the adverse effects most commonly seen with overdose. There is no specific antidote. In cases of overdose, discontinue medication, treat symptomatically and with appropriate supportive measures. Minocycline is not removed in significant quantities by haemodialysis or peritoneal dialysis.

5. Pharmacological properties

5.1 Pharmacodynamic properties

ATC code: J01A A08

Mechanism of action

Minocycline hydrochloride has a spectrum of activity and mode of action similar to that of tetracycline hydrochloride, but it is more active against many species. In addition, it is reported to be effective in vitro, against some tetracycline resistant staphylococci, streptococci and certain strains of tetracycline-resistant Escherichia coli and Haemophilus influenzae.

5.2 Pharmacokinetic properties

Absorption:

Minocycline is readily absorbed from the GI tract and is not significantly affected by the presence of food or moderate amounts of milk although absorption is impaired by the concomitant administration of iron salts or antacids containing calcium, magnesium or aluminium salts. Normal doses of 200mg followed by 100mg every 12 hours produced plasma concentrations within the range of 1-4µg/ml.

Distribution:

It is more lipid-soluble than doxycycline and the other tetracyclines and is widely distributed in body tissues and fluids, including the cerebrospinal fluid. A higher ratio of CSF to blood concentrations has been reported with minocycline than with doxycycline. It crosses the placenta and diffuses into milk of nursing mothers. About 75% of minocycline in the circulation is bound to plasma proteins. The plasma half-life tends to be prolonged in patients with severe renal impairment. It has a lower renal clearance than doxycycline and its plasma half-life ranges from 11-23 hours. It penetrates well into thyroid, lung and liver tissues and in most instances tissue levels exceed serum levels. It also appears in tears and saliva.

Biotransformation:

In contrast to most tetracyclines, minocycline appears to undergo some metabolism in the liver, mainly to 9-hydroxyminocycline. It is also excreted in bile.

Elimination:

About a third of the drug may be excreted unchanged and although figures vary widely, about a third of this unchanged drug may appear in the urine and two thirds in the faeces.

5.3 Preclinical safety data

Not applicable.

6. Pharmaceutical particulars

6.1 List of excipients

Microcrystalline Cellulose
PVP K 30
Sodium Benzoate
Isopropyl alcohol
Potassium Polacrillin
Talcum
Colloidal silicon dioxide
Magnesium Stearate
Hydroxypropyl Methyl Cellulose
Polyethylene Glycol
Ready mix color
Methylene Dichloride

6.2 Incompatibilities

Not applicable

6.3 Shelf life

3 years.

6.4 Special precautions for storage

Store below 30°C.

6.5 Nature and contents of container

10 Tablets in one ALU-ALU blister such 3 blister in one carton.

6.6 Special precautions for disposal and other handling

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

7 Marketing Authorization Holder and Manufacturing Site Address

Marketing Authorization Holder:

Krishna Chemists Limited
Industrial area, Lusaka road,3 rd floor, Metrix hardware,
P.O. Box:3328-001006, Nairobi-Kenya

Manufactured in India By:

RELAX BIOTECH PVT.LTD.

862/1, GIDC, Makarpura, Vadodara-390010, Gujarat

8 Marketing Authorization Number

CTD11410

9. Date of first Registration/ Renewal of the Registration

17/09/2025

10. Date of Revision of the Text

17/09/2025