SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Phenoxymethylpenicillin 125mg/5ml Oral Solution Sugar Free BP

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5ml of Oral Solution contains 125mg of Phenoxymethylpenicillin as

Phenoxymethylpenicillin Potassium Ph. Eur.

Each 5ml of Oral Solution contains 792.93mg of sorbitol 60W

Each 5ml of Oral Solution contains 16mg of sodium

For the full list of excipients, see section 6.1

3 PHARMACEUTICAL FORM

Powder for oral solution
Pale yellow powder for reconstitution as solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

Phenoxymethylpenicillin and phenoxymethylpenicillin potassium are indicated in the treatment of mild to moderately severe infections associated with micro-organisms whose susceptibility to penicillin is within the range of serum levels attained with the dosage form.

Phenoxymethylpenicillin is indicated for the treatment of the following infections (see section 4.4 and 5.1)
Streptococcal infections:
Pharyngitis
Scarlet fever
Skin and soft tissue infections (e.g. erysipelas)
Pneumococcal infections:
Pneumonia
Otitis media
Vincent’s gingivitis and pharyngitis

Phenoxymethylpenicillin is also indicated for (see section 5.1):
Prophylaxis of rheumatic fever and/or chorea
Prophylaxis of pneumococcal infection (e.g. in asplenia and inpatients with sickle cell disease
Consideration should be given to official guidance on the appropriate use of antibacterial agents.

4.2 Posology and method of administration

Posology

For oral administration only.
The dosage and frequency of Phenoxymethylpenicillin depends on the severity and localisation of the infection and expected pathogens.

Phenoxymethylpenicillin Solution should be taken at least 30 minutes before or 2 hours after food, as ingestion of Phenoxymethylpenicillin with meals slightly reduces the absorption of the drug.
Phenoxymethylpenicillin 250mg is approximately equivalent to 400,000 units.

The usual dosage recommendations are as follows:

Adults and children over 12 years: 250mg - 500mg every six hours
Children: Infants (up to 1 year): 62.5mg every 6 hours
1-5 years: 125mg every six hours
6-12 years: 250mg every six hours

Prophylactic Use

Prophylaxis of rheumatic fever/chorea: 250mg twice daily on a continuing basis
Prophylaxis of pneumococcal infection (e.g. in asplenia and in sickle cell disease):
Adults and children over 12 years: 500mg every 12 hours
Children 6-12 years: 250mg every 12 hours
Children below 5 years: 125mg every 12 hours.

Elderly

The dosage is as for adults. The dosage should be reduced if renal function is markedly impaired.

Renal impairment

The dosage should be reduced if renal function is markedly impaired.

Hepatic impairment

Dosage adjustment may be necessary in patients with impaired liver function when they also have renal failure. In this situation the liver may be a major excretion route.

Method of Administration

For instructions on dilution of the product before administration, see section 6.6.

4.3 Contraindications

Phenoxymethylpenicillin is contraindicated in patients known to be hypersensitive to Penicillin or to any of the excipients listed in section 6.1 and should be used with caution in patients with known histories of allergy.

Sorbitol:

Patients with rare hereditary problems of fructose intolerance should not take this medicine.

4.4 Special warnings and precautions for use

Penicillin should be used with caution in individuals with histories of significant allergies and/or asthma.

All degrees of hypersensitivity, including fatal anaphylaxis, have been observed with oral penicillin. These reactions are more likely to occur in individuals with a history of sensitivity to penicillins, cephalosporins and other allergens. Enquiries should be made for such a history before therapy is begun. If any allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents (e.g. adrenaline and other pressor amines, antihistamines and corticosteroids).

Patients suffering from severe gastrointestinal impairments accompanied by vomiting and diarrhoea should not be treated with penicillin V, because sufficient absorption is not ensured. (In those cases a parenteral administration is recommended, e.g. with benzyl penicillin or another adequate antibiotic).

Oral therapy should not be relied upon for patients with severe illness, or with nausea, vomiting, gastric dilation, achalasia or intestinal hypermotility. Occasionally patients do not absorb therapeutic amounts of orally administered penicillin.

Administer with caution in the presence of markedly impaired renal function, as safe dosage may be lower than the usually recommended doses.

Streptococcal infections should be treated for a minimum of 10 days, and post therapy cultures should be performed to confirm the eradication of the organisms.

Prolonged use of antibiotics may result in the development of superinfection due to organisms resistant to that anti-infective including Pseudomonas and Candida.. If super infection occurs, appropriate

measures should be taken.

In patients undergoing long-term penicillin V treatment the complete and differential blood count, as well as the liver and kidney function, should be monitored.

Severe empyema, bacteraemia, pericarditis, meningitis and arthritis should not be treated with Penicillin V during the acute phase.

Patients with a past history of rheumatic fever receiving continuous prophylaxis may harbour penicillin-resistant organisms. In these patients, the use of another prophylactic agent should be considered.

Cases of Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) have been reported with the use of penicillins. These are serious and potentially life threatening cutaneous conditions. Patients should be advised of the signs and symptoms of SJS and TEN (e.g., progressive skin rash often with blisters or mucosal lesions) and instructed to discontinue use immediately and seek urgent medical attention.

Information about excipients:

Sorbitol:
The 125mg/5ml solution contains 792.93 mg of sorbitol in each 5 ml dose.

Sodium benzoate:
Increase in bilirubinaemia following its displacement from albumin may increase neonatal jaundice which may develop into kernicterus (non-conjugated bilirubin deposits in the brain tissue). This medicine contains 16 mg Sodium benzoate in each 5ml Dose which is equivalent to 320 mg/100 ml unit volume.

4.5 Interaction with other medicinal products and other forms of interaction

Aminoglycosides: Neomycin is reported to reduce the absorption of phenoxymethylpenicillin.

Anticoagulants: Penicillins may interfere with anticoagulant control.

Bacteriostatic antibiotics: Certain bacteriostatic antibiotics such as Chloramphenicol, Erythromycin and Tetracyclines have been reported to antagonise the bactericidal activity of penicillins and concomitant use is not recommended.

Guar gum: Reduced absorption of phenoxymethylpenicillin

Methotrexate: Use of Phenoxymethylpenicillin while taking methotrexate

can cause reduced excretion of methotrexate thereby increasing the risk of toxicity.

Probenecid: Reduced excretion of phenoxymethylpenicillin by competing with it for renal tubular secretion.

Sulfinpyrazone: Excretion of penicillins reduced by sulfinpyrazone.

Typhoid vaccine (oral): Penicillins may inactivate oral typhoid vaccine if ingested concomitantly.

Laboratory tests: Non enzymatic methods of detecting glucose in the urine may show false positive results during treatment with phenoxymethylpenicillin.
Phenoxymethylpenicillin may also interfere with tests for urobilinogen.

4.6 Fertility, pregnancy and lactation

Pregnancy:
There are no or a limited amount of data from the use of Phenoxymethylpenicillin in pregnant women. As a precautionary measure, it is preferable to avoid the use of Phenoxymethylpenicillin during pregnancy.

Lactation:
Phenoxymethylpenicillin metabolites are excreted in human milk to such an extent that effects on breastfed newborns are likely, presenting the risk of candidiasis and also of central nervous system toxicity due to prematurity of the blood brain barrier. There is a theoretical possibility of later sensitisation.

4.7 Effects on ability to drive and use machines

No or negligible effect.

4.8 Undesirable effects

The most common reactions to oral penicillin are gastrointestinal effects and hypersensitivity reactions. Although hypersensitivity reactions have been reported much less frequently after oral than after parenteral

therapy, it should be remembered that all forms of hypersensitivity, including fatal anaphylaxis have been observed with oral penicillin. Hypersensitivity reactions of all intensities - to the point of anaphylactic shock- have also been observed after oral penicillin use.

Severe anaphylactoid reactions, which occur significantly less often after oral

administration of penicillin than after intravenous or intramuscular administration, may necessitate appropriate emergency management.

The following convention has been utilised for the classification of undesirable effects:- Very common (≥1/10) Common (≥1/100, <1/10) Uncommon (≥1/1000, <1/100) Rare (≥1/10,000, <1/1000) Very rare (<1/10,000) Not known (cannot be estimated from the available data).		
Infections and infestations	Not known	Pseudomembranous colitis
Blood and lymphatic disorders	Very rare	Changes in blood counts, including, thrombocytopenia, granulocytopenia, pancytopenia, agranulocytosis neutropenia, leucopenia, eosinophilia and haemolytic anaemia. These changes are reversible on discontinuation. Coagulation disorders have also been reported.
	Not known	Coagulation disorders (including prolongation of bleeding time and defective platelet function)
Gastrointestinal disorders	Common	Gastric discomfort, flatulence, nausea, vomiting, abdominal pain, diarrhoea, glossitis, stomatitis. These disorders are usually light and abate during or at the latest after discontinuing treatment

	Uncommon	Sore mouth and black hairy tongue (discolouration of tongue)
	Rare	Dry mouth
	Very rare	Superficial tooth discolouration[#]
Hepatobiliary disorders	Very rare	Hepatitis, cholestatic jaundice
	Rare	Transiently raised liver enzymes
Immune disorders	Common	Allergic reactions (typically manifest as skin reactions (See Skin and subcutaneous disorders)). Urticarial, erythematous or mobilliform rash, pruritus may occur
	Very Rare	Serious allergic reactions including drug fever, arthralgia, eosinophilia, angioneurotic oedema, laryngeal oedema, bronchospasm, tachycardia, dyspnoea, serum sickness, allergic vasculitis and dropping of blood pressure up to life threatening shock.
Nervous system disorders	Unknown	Central nervous system toxicity including convulsions (especially with high doses or in severe renal impairment); paraesthesia may occur with prolonged use, Neuropathy (usually associated with high doses of parenteral penicillin)
	Rare	Taste alteration
Renal and urinary disorders	Very rare	Interstitial nephritis
	Uncommon	Nephropathy (usually associated with high doses of parenteral penicillin)
Skin and subcutaneous disorders	Common	Urticarial, erythematous or mobilliform rash and Pruritus, exanthema
	Rare	Exfoliative dermatitis, Toxic epidermal necrolysis, allergic vasculitis
	Very Rare	Severe skin reactions such as Stevens-Johnson syndrome
Metabolism and Nutrition Disorders	Very common	Loss of appetite
Investigations	Rare	Blood pressure decreased

[#]Superficial tooth discolouration has been reported in children. Good oral

hygiene may help to prevent tooth discolouration as it can usually be removed by brushing

Frequently fever and eosinophilia will be the only manifestations of penicillin
hypersensitivity

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation 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 yellow card scheme at www.mhra.gov.uk/yellowcardor search for MHRA Yellow Card in the google Play or Apple App Store.

4.9 Overdose

Symptoms**:** A large oral overdose of penicillin may cause nausea, vomiting, stomach pain, diarrhoea, and rarely, major motor seizures. If other symptoms are present, consider the possibility of an allergic reaction. Hyperkalaemia may result from over dosage, particularly for patients with renal insufficiency.

Management: No specific antidote is known. Symptomatic and supportive therapy is recommended. Activated charcoal with a cathartic, such as sorbitol may hasten drug elimination. Penicillin may be removed by haemodialysis.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

ATC code: J01CE02
Pharmacotherapeutic group: Antibacterials for systemic use,
Phenoxymethylpenicillin is a beta-lactamase sensitive natural penicillin.

Mechanism of Action:
Phenoxymethylpenicillin acts through interference with the final stage of synthesis of the bacterial cell wall. The action depends on its ability to bind certain membrane-bound proteins, (penicillin-binding proteins or PBPs) that are located beneath the cell wall. These proteins are involved in maintaining cell wall structure, in cell wall synthesis and in cell division, and appear to possess transpeptidase and carboxypeptidase activity.

Bacterial surface enzymes called autolysins also appear to be involved in the lethal effect of penicillins, particularly for gram-positive bacteria. In gram-negative bacilli osmotic rupture of cells may occur when the cell wall is weakened. Phenoxymethylpenicillin can also produce morphological changes in vitro including the formation of long filaments or abnormally shaped cells. Bacteria that are not growing or dividing are generally not killed by phenoxymethylpenicillin.

Mechanism(s) of Resistance:
Phenoxymethylpenicillin is inhibited by penicillinase and other beta- lactamases that are produced by certain micro-organisms. The incidence of beta-lactamase producing organisms is increasing.

Impermeability of bacteria or efflux pump mechanisms may cause or contribute to bacterial resistance.

EUCAST clinical MIC breakpoints to separate susceptible (S) pathogens from resistant (R) pathogens (version 1.0 22.11.210) are:

The susceptibility of streptococci Groups A, C and G and *S. pneumoniae* to
phenoxymethylpenicillin is inferred from the susceptibility to benzylpenicillin.

EUCAST Species-related breakpoints (Susceptible≤/Resistant>) Units: mg/L	
Staphylococcus	≤0.12/>0.12
Streptococcus A, B, C, G	≤0.25/>*0.25*
S. pneumoniae	≤ 0.05/>2

Susceptibility testing breakpoints
MIC (minimum inhibitory concentration) interpretive criteria for susceptibility testing have been established by the European Committee on Antimicrobial Susceptibility Testing (EUCAST) for phenoxymethylpenicillin and are listed here:
https://www.ema.europa.eu/documents/other/minimum-inhibitory-concentration-mic-breakpoints_en.xlsx

Staphylococci: Penicillinase producing strains are resistant. The benzylpenicillin breakpoint (shown) will mostly, but not unequivocally, separate beta-lactamase producers from non-producers.

***Streptococcus pneumoniae*:** For phenoxymethylpenicillin, report

S. pneumoniae with benzylpenicillin MICs above 0.06 mg/L resistant.

Streptococci: Strains with MIC values above the S/I breakpoint are very rare or not yet reported. Until there is evidence regarding clinical response for confirmed isolates with MIC above the current resistant breakpoint (in italics) they should be reported resistant. Streptococci groups A, B, C and G do not produce beta-lactamase. The addition of a beta-lactamase inhibitor does not add clinical benefit.

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

Commonly susceptible species
Streptococcus A, C, G
Species for which acquired resistance may be a problem
Staphylococcus aureus
Streptococcus pneumoniae
Staphylococcus epidermidis

5.2 Pharmacokinetic properties

Absorption: Rapidly but incompletely absorbed after oral administration (about 60% of an oral dose is absorbed). Calcium and potassium salts are better absorbed than the free acid. Absorption appears to be reduced in patients with coeliac disease. Absorption appears to be more rapid in fasting than non- fasting subjects.

Blood concentration: after an oral dose of 125mg, peak serum concentrations of 200 to 700ng/ml are attained in 2 hours. After an oral dose of 500mg, peak serum concentrations reach 2 to 5micrograms/ml in 2to 4 hours.

Half-life: Biological half-life is about 30 minutes, increased to about 4 hours in severe renal impairment.

Distribution: Widely distributed throughout the body and enters

pleural and ascitic fluids and also in cerebrospinal fluid when the meninges are inflamed. Phenoxymethylpenicillin crosses the placenta and is secreted in trace amounts in breast milk; (protein binding 50% to 80% bound plasma proteins).

Biotransformation: It is metabolised in the liver; several metabolites have been identified, including penicilloic acid.

Elimination: Unchanged drug and metabolites are excreted rapidly in the urine. (20% to 35% of an oral dose is excreted in the urine in 24 hours).

5.3 Preclinical safety data

There are no pre-clinical data of relevance to the prescriber which are additional to that already included in other sections of this SPC.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium Benzoate Ph. Eur.
Saccharin Sodium Ph. Eur.
Trusil Orange Flavour HSE
Quinoline Yellow (E104)
Sorbitol 60W
Mono Ammonium Glycyrrhizinate Ph.eur

6.2 Incompatibilities

Not applicable

6.3 Shelf life

Unopened container: 15 months
Reconstituted oral solution: a shelf life of 7 days

6.4 Special precautions for storage

Unconstituted powder: Store in a dry place below 25°C. Protect from light
Reconstituted oral solution: Store for 7 days in a refrigerator

6.5 Nature and contents of container

Natural high density polyethylene bottle 150ml with white cap with a blue TE band containing 100ml of oral solution on reconstitution.

Natural high density polyethylene bottle 150ml with a child resistant /tamper evident cap containing 100 ml of oral Solution on reconstitution

May also contain

Hugo Meding – polypropylene spoon – Article number 7229
Or
5ml opaque polystyrene spoon
Or
A dosing syringe with bottle neck adaptor

6.6 Special precautions for disposal

To reconstitute: Loosen powder, add 85 ml water and shake well.
No special requirements for disposal.
Any unused medicinal product or waste material should be disposed of in accordance with local requirements

7 MARKETING AUTHORISATION HOLDER

Kent Pharma UK Limited,
2nd Floor, Connect 38,
1 Dover Place,
Ashford, Kent,
England, TN23 1FB.

8 MARKETING AUTHORISATION NUMBER(S)

PL 51463/0182

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

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10 DATE OF REVISION OF THE TEXT

05/03/2026