

Applicant/PHCR:	Macleods Pharmaceuticals SA (Pty) Ltd
Name:	Sevelamer Carbonate 800 mg, film-coated tablets
Active Ingredient:	Sevelamer Carbonate
Dosage Form:	Film-coated tablet
Date:	26 June 2026

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APPROVED PROFESSIONAL INFORMATION JUNE 2026

SCHEDULING STATUS: **S4**

1. NAME OF THE MEDICINE

MAKOSEV 800 (film coated tablet)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

MAKOSEV 800:

Each film coated tablet contains 800 mg sevelamer Carbonate

Sugar free

For the full list of excipients, see section 6.1

3. PHARMACEUTICAL FORM

Film coated tablet.

MAKOSEV 800:

White to off white, oval shaped, biconvex, film coated tablets imprinted with "L 28" on one side and plain on other side.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

MAKOSEV 800 is indicated for the control of hyperphosphataemia in adult patients receiving haemodialysis or peritoneal dialysis.

MAKOSEV 800 is also indicated for the control of hyperphosphataemia in adult patients with chronic

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kidney disease (CKD) not on dialysis with serum phosphorus ≥ 1.78 mmol/l.

4.2 Posology and method of administration

Posology

Initial dose

The recommended starting dose is 2,4 g to 4,8 g per day based on clinical needs and phosphorus level.

MAKOSEV 800 must be taken three times per day with meals.

For patients previously on phosphate binders, **MAKOSEV 800** should be given on a gram for gram basis with monitoring of serum phosphorus levels to ensure optimal daily doses.

Titration and maintenance

Serum phosphorus levels must be monitored and the dose of **MAKOSEV 800** titrated every 2 – 4 weeks until an acceptable serum phosphorus level is reached, with regular monitoring thereafter.

Patients taking **MAKOSEV 800** should adhere to their prescribed diets. In clinical practice, treatment will be continuous based on the need to control serum phosphorus levels and the daily dose is expected to be an average of approximately 6 g per day.

Special populations

Paediatric population

The safety and efficacy of **MAKOSEV 800** have not been established in children below the age of 18 years. **MAKOSEV 800** is not recommended for use in children below the age of 18 years.

Elderly population

There is no evidence for special considerations when **MAKOSEV 800** is administered to elderly patients.

Hepatic impairment

No studies have been performed in patients with hepatic impairment.

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Method of administration

For oral use.

The tablets should be swallowed intact and should not be crushed or broken into pieces prior to administration.

4.3 Contraindications

MAKOSEV 800 is contraindicated in:

- Hypersensitivity to the Sevelamer Carbonate or to any of the excipients listed in section 6.1.
- Hypophosphataemia.
- Bowel obstruction.

4.4 Special warnings and precautions for use

The safety and efficacy of sevelamer carbonate have not been established in adult patients with chronic kidney disease not on dialysis with serum phosphorus < 1.78 mmol/l. Therefore, it is currently not recommended for use in these patients.

The safety and efficacy of sevelamer carbonate have not been established in patients with the following disorders:

- dysphagia
- swallowing disorders
- severe gastrointestinal motility disorders including untreated or severe gastroparesis, retention of gastric contents and abnormal or irregular bowel motion
- active inflammatory bowel disease
- major gastrointestinal tract surgery

Caution should be exercised when **MAKOSEV 800** is used in patients with these disorders. If the

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therapy is initiated, patients suffering from these disorders should be monitored. **MAKOSEV 800** treatment should be re-evaluated in patients who develop severe constipation or other severe gastrointestinal symptoms.

Intestinal obstruction and ileus/subileus

In some cases, intestinal obstruction and ileus/subileus have been observed in patients during treatment with sevelamer hydrochloride (capsules/tablets), which contains the same active moiety as sevelamer carbonate. Constipation may be a preceding symptom. Patients who are constipated should be monitored carefully while being treated with **MAKOSEV 800**. The treatment should be re-evaluated in patients who develop severe constipation or other severe gastrointestinal symptoms.

Fat-soluble vitamins and folate deficiency

Patients with CKD may develop low levels of fat-soluble vitamins A, D, E and K, depending on dietary intake and the severity of their disease. It cannot be excluded that sevelamer carbonate can bind fat-soluble vitamins contained in ingested food. In patients not taking supplemental vitamins but on sevelamer, serum vitamin A, D, E and K status should be assessed regularly. It is recommended that vitamin supplements be given if necessary. It is recommended that CKD patients not on dialysis are given vitamin D supplements (approximately 400 IU of native vitamin D daily) which can be part of a multivitamin preparation to be taken apart from their dose of sevelamer carbonate. In patients undergoing peritoneal dialysis additional monitoring of fat-soluble vitamins and folic acid is recommended, since vitamin A, D, E and K levels were not measured in a clinical study in these patients.

There is at present insufficient data to exclude the possibility of folate deficiency during long term sevelamer carbonate treatment. In patients not taking supplemental folic acid but on sevelamer, folate level should be assessed regularly.

Hypocalcaemia/hypercalcaemia

Patients with CKD may develop hypocalcaemia or hypercalcaemia. Sevelamer carbonate does not contain any calcium. Serum calcium levels should therefore be monitored at regular intervals and

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elemental calcium should be given as a supplement if required.

Metabolic acidosis

Patients with CKD are predisposed to developing metabolic acidosis. As part of good clinical practice, monitoring of serum bicarbonate levels is therefore recommended.

Peritonitis

Patients receiving dialysis are subject to certain risks for infection specific to dialysis modality. Peritonitis is a known complication in patients receiving peritoneal dialysis and in a clinical trial with sevelamer hydrochloride, a greater number of peritonitis cases were reported in the sevelamer group than in the control group. Patients on peritoneal dialysis should be closely monitored to ensure the correct use of appropriate aseptic technique with the prompt recognition and management of any signs and symptoms associated with peritonitis.

Swallowing and choking difficulties

Case reports of difficulty swallowing the **MAKOSEV 800** tablet have been reported. Many of these cases involved patients with co-morbid conditions including swallowing disorders or oesophageal abnormalities. Proper swallowing ability should be carefully monitored in patients with co-morbid conditions. The use of sevelamer carbonate powder in patients with a history of difficulty swallowing should be considered.

Hypothyroidism

Closer monitoring of patients with hypothyroidism co-administered with sevelamer carbonate and levothyroxine is recommended (see section 4.5).

Hyperparathyroidism

Sevelamer carbonate is not indicated for the control of hyperparathyroidism. In patients with secondary hyperparathyroidism sevelamer carbonate should be used within the context of a multiple therapeutic approach, which could include calcium as supplements, 1,25-dihydroxy Vitamin D₃ or one of its analogues to lower the intact parathyroid hormone (iPTH) levels.

Inflammatory gastrointestinal disorders

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Cases of serious inflammatory disorders of different parts of the gastrointestinal tract (including serious complications such as haemorrhage, perforation, ulceration, necrosis, colitis and colonic/caecal mass) associated with the presence of sevelamer crystals have been reported (see section 4.8). Inflammatory disorders may resolve upon sevelamer discontinuation. Sevelamer carbonate treatment should be re-evaluated in patients who develop severe gastrointestinal symptoms.

4.5 Interaction with other medicines and other forms of interaction

Dialysis

Interaction studies have not been conducted in patients on dialysis.

Ciprofloxacin

In interaction studies in healthy volunteers, sevelamer hydrochloride, which contains the same active moiety as sevelamer carbonate, decreased the bioavailability of ciprofloxacin by approximately 50% when co-administered with sevelamer hydrochloride in a single dose study. Consequently, sevelamer carbonate should not be taken simultaneously with ciprofloxacin.

Ciclosporin, mycophenolate mofetil and tacrolimus in transplant patients

Reduced levels of ciclosporin, mycophenolate mofetil and tacrolimus have been reported in transplant patients when co-administered with sevelamer hydrochloride without any clinical consequences (e.g., graft rejection). The possibility of an interaction cannot be excluded and a close monitoring of blood concentrations of ciclosporin, mycophenolate mofetil and tacrolimus should be considered during the use of combination and after its withdrawal.

Levothyroxine

Very rare cases of hypothyroidism have been reported in patients co-administered with sevelamer hydrochloride, which contains the same active moiety as sevelamer carbonate, and levothyroxine. Closer monitoring of thyroid stimulating hormone (TSH) levels is therefore recommended in patients receiving sevelamer carbonate and levothyroxine.

Anti-dysrhythmics and anti-seizure medicines

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Patients taking anti-dysrhythmic medicines for the control of dysrhythmias and anti-seizure medicinal products for the control of seizure disorders were excluded from clinical trials. Therefore, possible reduction in absorption cannot be excluded. The anti-dysrhythmic medicinal product should be taken at least one hour before or three hours after **MAKOSEV 800** and blood monitoring can be considered.

Proton pump inhibitors

During post-marketing experience, very rare cases of increased phosphate levels have been reported in patients taking proton pump inhibitors co-administered with sevelamer carbonate. Caution should be exercised when prescribing PPI to patients concomitantly treated with **MAKOSEV 800**. The phosphate serum level should be monitored and the **MAKOSEV 800** dosage adjusted consequently.

Bioavailability

Sevelamer carbonate is not absorbed and may affect the bioavailability of other medicinal products. When administering any medicine where a reduction in the bioavailability could have a clinically significant effect on safety or efficacy, the medicine should be administered at least one hour before or three hours after sevelamer carbonate, or the physician should consider monitoring blood levels.

Digoxin, warfarin, enalapril or metoprolol

In interaction studies in healthy volunteers, sevelamer hydrochloride, which contains the same active moiety as sevelamer carbonate, had no effect on the bioavailability of digoxin, warfarin, enalapril or metoprolol.

4.6 Fertility, pregnancy and lactation

Pregnancy

Safety during pregnancy has not been established.

Breastfeeding

Safety during lactation has not been established.

MAKOSEV 800 is not recommended for mothers who are breastfeeding their infants.

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Fertility

There are no data from the effect of sevelamer on fertility in humans.

4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive a vehicle and use machines have been performed.

4.8 Undesirable effects

Summary of the safety profile

The most frequently reported adverse reactions were all in the gastrointestinal disorders system.

Tabulated summary of adverse reactions

<i>System organ class</i>	Frequent	Less frequent	Frequency unknown
Immune system disorders			Hypersensitivity
Gastrointestinal disorders	Nausea, vomiting, upper abdominal pain, constipation, Diarrhoea, dyspepsia, flatulence, abdominal pain		Ileus, Intestinal obstruction, ileus, intestinal perforation ¹ , Cases of serious inflammatory disorders of the gastrointestinal tract (with complications including haemorrhage ¹ , perforation, ulceration, necrosis, colitis and

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			intestinal mass) associated with sevelamer crystals
Skin and subcutaneous tissue disorders	Pruritis		rash
General disorders and administration site conditions	Fatigue		

1 See inflammatory gastrointestinal disorders warning in section 4.4

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. Health care providers are asked to report any suspected adverse reactions to SAHPRA via the Med Safety APP (Medsafety X SAHPRA) and eReporting platform (who-umc.org) found on SAHPRA website or to Macleods Pharmaceuticals SA (Pty) Ltd. at safety@macleodspharma.com

4.9 Overdose

In CKD patients on dialysis, the maximum dose studied was 14,4 grams of sevelamer carbonate. There are no reports of overdosage with sevelamer carbonate in patients. Sevelamer is not systemically absorbed, the risk of systemic toxicity is low.

Treatment is symptomatic and supportive.

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5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Category and class: A 32.16 Others

Pharmacotherapeutic group: All other therapeutic products, drugs for treatment of hyperkalaemia and hyperphosphataemia: ATC code V03A E02

Mechanism of action

MAKOSEV 800 contains sevelamer, a non-absorbed phosphate binding crosslinked polymer, free of metal and calcium. Sevelamer contains multiple amines separated by one carbon from the polymer backbone which become protonated in the stomach. These protonated amines bind negatively charged ions such as dietary phosphate in the intestine.

Pharmacodynamic effects

By binding phosphate in the gastrointestinal tract and decreasing absorption, sevelamer lowers the phosphorus concentration in the serum. Regular monitoring of serum phosphorus levels is always necessary during phosphate binder administration.

In addition to effects on serum phosphate levels, sevelamer hydrochloride has been shown to bind bile acids *in vitro* and *in vivo* in experimental animal models. Because sevelamer binds bile acids, it may interfere with normal fat absorption and thus may reduce absorption of fat soluble vitamins such as A, D and K. Mean LDL cholesterol and mean total cholesterol declined significantly on sevelamer treatment (-39 % and -21 %, respectively). This effect is observed after 2 weeks. Triglycerides, HDL cholesterol and albumin did not change.

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5.2 Pharmacokinetic properties

Absorption

Pharmacokinetic studies have not been carried out with sevelamer carbonate. Sevelamer hydrochloride, which contains the same active moiety as sevelamer carbonate, is not absorbed from the gastrointestinal tract, as confirmed by an absorption study in healthy volunteers.

In a clinical trial of one year, no evidence of accumulation of sevelamer was seen. However, the potential absorption and accumulation of sevelamer during long-term chronic treatment (> one year) cannot be totally excluded.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Core ingredients:- Microcrystalline cellulose, Hydroxypropyl Cellulose, Colloidal silicon dioxide, Zinc Stearate

Coating ingredients:- Hypromellose-15, Hypromellose-5, Di-Acetylated Monoglycerides

Imprinting:- Black Iron Oxide, Propylene Glycol

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

36 months

6.4 Special precautions for storage

Store at or below 25 °C. Protect from moisture.

Keep the bottle tightly closed.

KEEP OUT OF REACH OF CHILDREN

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6.5 Nature and contents of container

Tablets are packed in white, round, round 500 cc HDPE bottle closed with a white child resistant closure with pulp and heat seal white printed liner.

Pack size: 30, 180, 270's

Not all pack sizes may be marketed.

6.6 Special precautions for disposal

No special requirements.

7. HOLDER OF CERTIFICATE OF REGISTRATION

MACLEODS PHARMACEUTICALS SA (PTY) LTD

GROUND FLOOR, BLOCK 1,

BASSONIA ESTATE OFFICE PARK (EAST),

1 CUSSONIA DRIVE,

BASSONIA ROCK EXT 12

ALBERTON

GAUTENG

8. REGISTRATION NUMBERS

MAKOSEV 800: 59/32.16/0217

9. DATE OF FIRST AUTHORISATION

MAKOSEV 800: 09 June 2026

10. DATE OF REVISION OF THE TEXT

To be advised

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