PROFESSIONAL INFORMATION FOR SOLVICYD 5 MG AND 10 MG FILM-COATED TABLETS

SCHEDULING STATUS S3

1 NAME OF THE MEDICINE

SOLVICYD 5 mg Film-coated tablets

SOLVICYD 10 mg Film-coated tablets

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each **SOLVICYD 5 mg** film-coated tablet contains 5 mg solifenacin succinate.

Each **SOLVICYD 10 mg** film-coated tablet contains 10 mg solifenacin succinate.

Contains sugar: lactose monohydrate

SOLVICYD 5 mg contains 69,14 mg lactose monohydrate per tablet

SOLVICYD 10 mg contains 138,28 mg lactose monohydrate per tablet

For the full list of excipients, see **section 6.1**

3 PHARMACEUTICAL FORM

Film-coated tablets

SOLVICYD 5 mg:

Light yellow colored, round, biconvex, film coated tablets debossed with ‘L 22’ on one side and plain on other side.

SOLVICYD 10 mg:

Pinkish white colored, round, biconvex, film coated tablets debossed with ‘L 27’ on one side and plain on the other side.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

SOLVICYD is indicated for the symptomatic treatment of overactive bladder syndrome: symptoms of urinary urgency, frequent micturition and/or urge incontinence.

4.2 Posology and method of administration

Posology

Adults, including the elderly:

The recommended dose is 5 mg once daily. If needed, the dose may be increased to 10 mg once daily.

Special populations

Patients with renal impairment:

No dose adjustment is necessary for patients with mild to moderate renal impairment (creatinine clearance > 30 mL/min). Patients with severe renal impairment (creatinine clearance ≤ 30 mL/min) should be treated with caution and receive not more than 5 mg once daily.

Patients with hepatic impairment:

No dose adjustment is necessary for patients with mild hepatic impairment. Patients with moderate hepatic impairment should be treated with caution and receive not more than 5 mg once daily.

Potent inhibitors of cytochrome P450 3A4:

The maximum dose of **SOLVICYD** should be limited to 5 mg when treated simultaneously with ketoconazole or therapeutic doses of other potent CYP3A4-inhibitors e.g. ritonavir, nelfinavir, itraconazole.

Paediatric population:

Safety and effectiveness of **SOLVICYD** in children have not yet been established. Therefore, **SOLVICYD** is not recommended for children.

Method of administration

SOLVICYD should be taken orally and should be swallowed whole with liquids. It can be taken with or without food, as is convenient.

4.3 Contraindications

- Hypersensitivity to solifenacin or to any of the excipients of **SOLVICYD** (see **section 6.1**)
- Urinary retention
- Uncontrolled narrow angle glaucoma
- Myasthenia gravis
- Toxic megacolon
- Patients undergoing haemodialysis
- Patients with severe hepatic impairment
- Patients with severe renal impairment (Cl_{cr} < 30 mL/min) and on treatment with a strong CYP3A4 inhibitor, e.g. ketoconazole (see **section 4.5**)
- Patients with moderate hepatic impairment and on treatment with a strong CYP3A4 inhibitor, e.g. ketoconazole (see **section 4.5)**
- Patients with a prolonged QT interval, either congenital or acquired
- Pregnancy and lactation.

4.4 Special warnings and precautions

Other causes of frequent urination (heart failure or renal disease) should be addressed before treatment with **SOLVICYD**. If urinary tract infection is present, an appropriate antibacterial therapy should be started.

SOLVICYD should be used with caution in patients with:

- Significant decompensated bladder outlet obstruction at risk of urinary retention.
- Gastrointestinal obstructive disorders.
- Risk of decreased gastrointestinal motility.
- Severe renal impairment (creatinine clearance ≤ 30 mL/min), and doses should not exceed 5 mg for these patients.
- Moderate hepatic impairment (Child-Pugh score of 7 to 9), and doses should not exceed 5 mg

for these patients.

- Concomitant use of a potent CYP3A4 inhibitor, e.g. ketoconazole.
- Hiatus hernia/gastro-oesophageal reflux and/or who are concurrently taking medicines (such as bisphosphonates) that can cause or exacerbate oesophagitis.
- Autonomic neuropathy.

QT prolongation and Torsade de Pointes have been observed in patients with risk factors, such as pre-existing long QT syndrome and hypokalaemia (see **section 4.3**).

Safety and efficacy have not yet been established in patients with a neurogenic cause for detrusor overactivity.

Angioedema with airway obstruction has been reported in some patients on solifenacin. If angioedema occurs, **SOLVICYD** should be discontinued and appropriate therapy and/or measures should be taken.

Anaphylactic reaction has been reported in some patients treated with solifenacin. In patients who develop anaphylactic reactions, **SOLVICYD** should be discontinued and appropriate therapy and/or measures should be taken.

The maximum effect of solifenacin can be determined after 4 weeks at the earliest.

SOLVICYD contains lactose

Patients with rare hereditary problems of lactose intolerance, total lactase deficiency or glucose-galactose malabsorption should not take **SOLVICYD.**

4.5 Interactions with other medicines and other forms of interaction

Pharmacological interactions:

Concomitant administration with other medicines with anticholinergic properties may result in more pronounced therapeutic effects and side effects. An interval of approximately one week should be allowed after stopping treatment with **SOLVICYD**, before commencing other anticholinergic therapy.

The therapeutic effect of **SOLVICYD** may be reduced by concomitant administration of cholinergic receptor agonists.

SOLVICYD can reduce the effect of medicines that stimulate the motility of the gastro-intestinal tract, such as metoclopramide and cisapride.

Pharmacokinetic interactions:

In vitro studies have demonstrated that at therapeutic concentrations, solifenacin does not inhibit CYP1A1/2, 2C9, 2C19, 2D6, or 3A4 derived from human liver microsomes. Therefore, **SOLVICYD** is unlikely to alter the clearance of medicines metabolised by these CYP enzymes.

Effect of other medicines on the pharmacokinetics of solifenacin:

Since solifenacin is metabolised by CYP3A4, pharmacokinetics interactions are possible with other CYP3A4 substrates, inhibitors and inducers.

Ketoconazole and other CYP3A4 inhibitors:

Simultaneous administration of ketoconazole (200 mg/day) resulted in a two-fold increase of the AUC of solifenacin, while ketoconazole at a dose of 400 mg/day resulted in a three-fold increase of the AUC of solifenacin. Therefore, the maximum dose of **SOLVICYD** should be restricted to 5 mg, when used simultaneously with ketoconazole or therapeutic doses of other potent CYP3A4 inhibitors (e.g. ritonavir, nelfinavir, itraconazole).

Simultaneous treatment of **SOLVICYD** and strong CYP3A4 inhibitors is contraindicated in patients with severe renal impairment or moderate hepatic impairment (see **section 4.3**).

The effects of enzyme induction on the pharmacokinetics of solifenacin and its metabolites have not been studied as well as the effect of higher affinity CYP3A4 substrates on solifenacin exposure. Since solifenacin is metabolised by CYP3A4, pharmacokinetic interactions are possible with other CYP3A4 substrates with higher affinity (e.g. verapamil, diltiazem) and CYP3A4 inducers (e.g. rifampicin, phenytoin, carbamazepine).

Effect of solifenacin on the pharmacokinetics of other medicines:

Oral contraceptives:

Intake of solifenacin showed no pharmacokinetic interaction between solifenacin and combined oral contraceptives (ethinyl oestradiol/levonorgestrel), as both are CYP3A4 substrates.

Warfarin:

Intake of solifenacin did not alter the pharmacokinetics of *R*-warfarin (substrate for CYP3A4) or *S*-warfarin (substrate for CYP2C9) or their effect on the INR.

Digoxin:

Intake of solifenacin showed no effects on the pharmacokinetics of digoxin.

4.6 Fertility, pregnancy and lactation

Pregnancy

SOLVICYD is contraindicated during pregnancy (see **section 4.3**).

Foetal toxicity has been shown in rodents.

Breastfeeding

Solifenacin, as in **SOLVICYD** is excreted into breast milk. It is contraindicated during lactation (see **section 4.3**), therefore women taking **SOLVICYD** should not breastfeed their infants.

Fertility

Animal studies do not indicate direct harmful effects on fertility, embryonal / foetal development or parturition. The potential risk for humans is unknown.

4.7 Effects on ability to drive and use machines

Since **SOLVICYD** may cause blurred vision, somnolence and fatigue (see **section 4.8**), the ability to drive and use machines may be negatively affected.

4.8 Undesirable effects

Due to the pharmacological effect of solifenacin, **SOLVICYD** may cause anticholinergic side effects of mild or moderate severity in general. The frequency of anticholinergic side effects is dose related.

The most frequently reported adverse reaction of **SOLVICYD** was dry mouth. The severity of dry mouth was generally mild.

Infectious and infestations:

Less frequent:	Urinary tract infection, cystitis.

Nervous system disorders:

Less frequent:	Somnolence, dysgeusia.

Eye disorders:

Frequent:	Blurred vision.
Less frequent:	Dry eyes.

Respiratory, thoracic and mediastinal disorders:

Less frequent:	Nasal dryness.

Gastrointestinal disorders:

Frequent:	Dry mouth, constipation, nausea, dyspepsia, abdominal pain.
Less frequent:	Gastro-oesophageal reflux diseases, dry throat,

colonic obstruction, faecal impaction.

Skin and subcutaneous tissue disorders:

Less frequent: Dry skin.

Renal and urinary disorders:

Less frequent: Difficulty in micturition, urinary retention.

General disorders and administration site conditions:

Less frequent: Fatigue, peripheral oedema.

Post-marketing data:

Immune system disorders:

Frequency unknown: Anaphylactic reaction.

Metabolism and nutrition disorders:

Frequency unknown: Decreased appetite, hyperkalaemia.

Psychiatric disorders:

Less frequent: Hallucinations, confusional state.

Frequency unknown: Delirium.

Nervous system disorders:

Less frequent: Dizziness, headache

Eye disorders:

Frequency unknown: Glaucoma.

Cardiac disorders:

Frequency unknown:	Torsade de Pointes, electrocardiogram QT prolonged, atrial fibrillation, palpitations, tachycardia.

Respiratory, thoracic and mediastinal disorders:

Frequency unknown:	Dysphonia.

Gastrointestinal disorders:

Less frequent:	Vomiting.
Frequency unknown:	Ileus, abdominal discomfort.

Hepatobiliary disorders:

Frequency unknown:	Liver disorder, liver function test abnormal.

Skin and subcutaneous tissue disorder:

Less frequent:	Pruritus, rash, erythema multiforme, urticaria, angioedema.
Frequency unknown:	Exfoliative dermatitis.

Musculoskeletal, connective tissue and bone disorders:

Frequency unknown:	Muscular weakness.

Renal and urinary disorders:

Frequency unknown:	Renal impairment.

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 "6.04 Adverse Drug Reactions Reporting Form", found online under SAHPRA's publications: https://www.sahpra.org.za/Publications/Index/8

4.9 Overdose

Symptoms

Overdosage with solifenacin succinate can potentially result in severe anticholinergic effects. In the event of overdose with **SOLVICYD,** the patient should be treated with activated charcoal.

Standard supportive treatment should be applied, as necessary.

Symptoms can be treated as follows:

- Severe central anticholinergic effects such as hallucinations or pronounced excitation: treat with physostigmine or carbachol.
- Convulsions or pronounced excitation: treat with benzodiazepines.
- Respiratory insufficiency: treat with artificial respiration.
- Tachycardia: treat with beta-blockers.
- Urinary retention: treat with catheterisation.
- Mydriasis: treat with pilocarpine eye drops and/or place patient in dark room.

Specific attention should be paid to patients with known risk for QT-prolongation (i.e. hypokalaemia, bradycardia and concurrent administration of medicines known to prolong QT-interval) and relevant pre-existing cardiac diseases (i.e. myocardial ischaemia, dysrhythmia, congestive heart failure).

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Urinary antispasmodics; ATC code: G04BD08

Pharmacological classification: A 5.4 Cholinolytics (anticholinergics)**.**

Solifenacin is a competitive, specific cholinergic-receptor antagonist. *In vitro* studies demonstrated that solifenacin binds to muscarinic receptors, with high affinity.

5.2 Pharmacokinetic properties

Pharmacokinetic properties:

Absorption

Following the oral administration of solifenacin succinate tablets, maximum solifenacin plasma concentrations (C_{max}) are reached after 3 to 8 hours. The t_{max} is independent of the dose. The C_{max} and area under the curve (AUC) increase in proportion to the dose between 5 to 40 mg. Absolute bioavailability is approximately 90 %. Food intake does not affect the C_{max} and AUC of solifenacin.

Distribution

The apparent volume of distribution of solifenacin following intravenous administration is about 600 L. Solifenacin is largely (approximately 98 %) bound to plasma proteins, primarily α1-acid glycoprotein.

Biotransformation

Solifenacin is extensively metabolised by the liver, primarily by cytochrome P450 3A4 (CYP3A4).

However, alternative metabolic pathways exist, that can contribute to the metabolism of solifenacin. The systemic clearance of solifenacin is about 9,5 L/h and the terminal half-life of solifenacin is 45 to 68 hours. After oral dosing, one pharmacologically active (4*R*-hydroxy solifenacin) and three inactive metabolites (*N*-glucuronide, *N*-oxide and 4*R*-hydroxy-N-oxide of solifenacin) have been identified in plasma in addition to solifenacin.

Elimination

After a single administration of 10 mg [^{14}C-labelled] – solifenacin, about 70 % of the radioactivity was detected in urine and 23 % in faeces over 26 days. In urine, approximately 11 % of radioactivity is recovered as unchanged medicine, about 18 % as the *N*-oxide metabolite, 9 % as the 4*R*-hydroxy-*N*-oxide metabolite and 8 % as the 4*R*-hydroxy metabolite (active metabolite).

Linearity/Non-linearity

Pharmacokinetics is linear in the therapeutic dose range.

Special populations:

Age

No dosage adjustment based on patient age is required. Studies in elderly have shown that the exposure to solifenacin, expressed as the AUC, after administration of solifenacin succinate (5 mg and 10 mg once daily) was similar in healthy elderly subjects (aged 65 through 80 years) and healthy young subjects (aged less than 55 years). The mean rate of absorption expressed as t_{max} was slightly slower in the elderly and the terminal half-life was approximately 20 % longer in elderly subjects. These modest differences were considered not clinically significant.

The pharmacokinetics of solifenacin has not been established in children.

Gender

The pharmacokinetics of solifenacin is not influenced by gender.

Renal impairment

The AUC and C_{max} of solifenacin in mild and moderate renal impaired patients, was not significantly different from that found in healthy volunteers. In patients with severe renal impairment (creatinine clearance ≤ 30 mL/min) exposure to solifenacin was significantly greater than in the controls with increases in C_{max} of about 30 %, AUC of more than 100 % and $t_{½}$ of more than 60 %. A statistically significant relationship was observed between creatinine clearance and solifenacin clearance.

Pharmacokinetics in patients undergoing haemodialysis has not been studied.

Hepatic impairment

In patients with moderate hepatic impairment the C_{max} is not affected, AUC increases with 60 % and $t_{½}$ doubled. Pharmacokinetics of solifenacin in patients with severe hepatic impairment has not been studied.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Contains lactose monohydrate, pregelatinised starch, magnesium stearate.

5 mg contains ready mix coating material containing hypromellose, titanium dioxide, lactose monohydrate, polyethylene glycol, talc, iron oxide yellow.

10 mg contains ready mix coating material containing hypromellose, titanium dioxide, lactose monohydrate, polyethylene glycol, talc, iron oxide red.

6.2 Incompatibilities

Not applicable

6.3 Shelf life

For HDPE Container pack - 24 months from date of manufacture.

For Blister pack – 36 months from date of manufacture.

6.4 Special precautions for storage

Store at or below 25 °C. Protect from light

Keep the blisters in the carton until required for use.

Keep the HDPE container tightly closed.

Store in the original package in order to protect from light and moisture.

KEEP OUT OF REACH OF CHILDREN.

6.5 Nature and contents of the container

1) Blister Pack:

Tablets are packed in Clear film 250 µ PVC as the forming material and 25 µ Aluminium preprinted foil/ 6-8 gsm heat seal lacquered as the lidding material, packed in a pre-printed carton.

Pack size include 5’s, 10’s or 30's (3x10s) tablets.

2) HDPE Container Pack:

Pack size 30 tablets

Tablets are packed in a 23 ml white round HDPE container with 28-400 mm neck finish which are closed with 28 mm child resistant closure with pulp and heat seal liner and packed in outer carton.

Pack size 90 tablets

Tablets are packed in a 30 ml white round HDPE container with 28-400 mm neck finish which are closed with 28 mm child resistant closure with pulp and heat seal liner and packed in outer carton.

Not all packs and pack sizes are necessarily marketed.

6.6 Special precautions for disposal and other handling

No special requirements.

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

7 HOLDER OF THE CERTIFICATES OF REGISTRATION

Macleods Pharmaceuticals SA (Pty) Ltd

Office block 1, Bassonia Estate Office Park (East),

1 Cussonia Drive, Bassonia Rock, Ext. 12,

Alberton, South Africa.

8 REGISTRATION NUMBERS

SOLVICYD 5 mg – 49/5.4/0230

SOLVICYD 10 mg – 49/5.4/0231

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

06 April 2022

10 DATE OF REVISION OF THE TEXT

14 April 2023 PM0248

