

1. NAME OF THE MEDICINAL PRODUCT

Lamisil DermGel 1% gel.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Active substance: 1 g gel contains 10 mg terbinafine (1% w/w).

Excipient(s) with known effect: ethanol 96% (100mg/g), benzyl alcohol (5mg/g) and butylhydroxytoluene (E321) (0.2mg/g).

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Gel.

White to off-white glossy gel.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Lamisil DermGel is indicated in the treatment of fungal infections of the skin caused by dermatophytes and pityriasis (tinea) versicolor in adults (see section 4.4)

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4.2 Posology and method of administration

Cutaneous use only.

Posology

Adults Only

Lamisil DermGel is applied once daily for all indications.

Duration and frequency of treatment

Interdigital type tinea pedis: Once a day for 1 week

Tinea corporis, tinea cruris: Once a day for 1 week

Pityriasis versicolor: Once a day for 1 week

Clinical symptoms usually start to improve within a few days. Irregular use or premature discontinuation of treatment carries the risk of recurrence.

If there are no signs of improvement within one week after completed treatment, patients should contact a pharmacist to verify that the product is correctly used or see a doctor to verify diagnosis.

Method of administration

Before first use, the sealing membrane of the tube must be pierced using the point incorporated into the screw cap.

The affected areas should be cleaned and dried thoroughly before the application of Lamisil DermGel. The gel should be applied to the affected skin and surrounding area in a thin layer and rubbed in lightly. In the case of intertriginous infection (submammary, interdigital, intergluteal, inguinal), the application may be covered with gauze, especially at night.

Dosing in special populations:

Pediatric population

Lamisil DermGel is not recommended for use in Children due to insufficient data on safety and efficacy.

Elderly patients

There is no evidence to suggest that elderly patients require different dosages or experience side effects different from those in younger patients.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Lamisil DermGel should be used with caution in patients with lesions where alcohol could be irritating. It should not be used on the face.

Lamisil DermGel is for external use only. It may be irritating to the eyes. In case of accidental contact with the eyes, rinse eyes thoroughly with running water.

Lamisil DermGel should be kept out of the sight and reach of children.

Information concerning excipients

Lamisil gel (DermGel) contains butylhydroxytoluene (E321), which may cause local skin reactions (e.g. contact dermatitis), or irritation to the eyes and mucous membranes.

This medicine contains 100 mg/g of 96% ethanol (alcohol).
It may cause burning sensation on damaged skin.

This medicine contains 5 mg/g of Benzyl alcohol.
Benzyl alcohol may cause allergic reactions.

4.5 Interaction with other medicinal products and other forms of interaction

No drug interactions are known with Lamisil DermGel.

4.6 Fertility, pregnancy and lactation

Pregnancy

There are no available data from the use of terbinafine in pregnant women. Animal studies do not indicate any harmful effects with respect to pregnancy or the health of the foetus (see section 5.3). Lamisil DermGel should not be used during pregnancy unless clearly necessary.

Breast-feeding

Terbinafine is excreted into breast milk. After topical use only, a low systemic exposure is expected.

Terbinafine should only be used in a nursing mother if the expected benefit justifies the risk to the infant. In addition, infants must not be allowed to come into contact with any treated skin, including the breast.

Fertility

No effect of terbinafine on fertility have been seen in animal studies (see section 5.3).

4.7 Effects on ability to drive and use machines

Lamisil DermGel has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

Summary of the safety profile

Local symptoms such as pruritus, skin exfoliation, application site pain, application site irritation, pigmentation disorder, skin burning sensation, erythema, scab, etc. may occur at the site of application. These harmless symptoms must be distinguished from hypersensitivity reactions incl. rash, which are reported in sporadic cases and require discontinuation of therapy. In case of accidental contact with the eyes terbinafine may be irritating to the eyes. In rare cases the underlying fungal infection may be aggravated.

Tabulated list of adverse reactions

Adverse reactions are listed below by system organ class and frequency. Frequencies are defined as: *very common* ($\geq 1/10$); *common* ($\geq 1/100$ to $< 1/10$); *uncommon* ($\geq 1/1,000$ to $< 1/100$); *rare* ($\geq 1/10,000$ to $< 1/1,000$); *very rare* ($< 1/10,000$), or *not known* (can not to be estimated from available data). Within each frequency grouping, adverse reactions are presented in order of decreasing seriousness.

Adverse reactions identified during post-marketing use are reported voluntarily from a population of uncertain size, the frequency of these reactions is ‘not known’ but likely to be rare or very rare.

System Organ Class (SOC) Frequency	Adverse Reaction
Immune system disorders	
Not known	Hypersensitivity
Eye disorders	
Rare	Eye irritation

System Organ Class (SOC) Frequency	Adverse Reaction
Skin and subcutaneous tissue disorders	
Common	Skin exfoliation, pruritus
Uncommon	Skin lesion, scab, skin disorder, pigmentation disorder, erythema, skin burning sensation
Rare	Dry skin, dermatitis contact, eczema
Unknown	Rash
General disorders and administration site conditions	
Uncommon	Pain, application site pain, application site irritation
Rare	Condition aggravated

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 national reporting system listed in Appendix V.

4.9 Overdose

The low systemic absorption of topical terbinafine emulsion gel renders overdosage extremely unlikely. Accidental ingestion of the contents of one 30 g tube of Lamisil DermGel, which contains 300 mg terbinafine, is comparable to ingestion of one Lamisil 250 mg tablet (adult oral unit dose).

Should a larger amount of Lamisil DermGel be inadvertently ingested, adverse effects similar to those observed with an overdosage of Lamisil tablets are to be expected. These include headache, nausea, epigastric pain and dizziness.

In case of accidental oral ingestion, the alcohol content (9.4% w/w) of Lamisil Dermgel has to be considered.

Treatment of overdose

If accidentally ingested, the recommended treatment of overdosage consists of eliminating the active substance, primarily by the administration of activated charcoal, and giving symptomatic supportive therapy if needed.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antifungal for topical use, ATC code: D01A E15

Terbinafine is an allylamine which has a broad spectrum of antifungal activity in fungal infections of the skin caused by dermatophytes such as *Trichophyton* (e.g. *T. rubrum*, *T. mentagrophytes*, *T. verrucosum*, *T. violaceum*), *Microsporum canis* and *Epidermophyton floccosum*. At low concentrations terbinafine is fungicidal against dermatophytes and moulds. The activity against yeasts is fungicidal (e.g. *Pityrosporum obiculare* or *Malassezia furfur*) or fungistatic, depending on the species.

Terbinafine interferes specifically with fungal sterol biosynthesis at an early step. This leads to a deficiency in ergosterol and to an intracellular accumulation of squalene, resulting in fungal cell death. Terbinafine acts by inhibition of squalene epoxidase in the fungal cell membrane. The enzyme squalene epoxidase is not linked to the cytochrome P450 system. Terbinafine does not influence the metabolism of hormones or other substances.

5.2 Pharmacokinetic properties

Less than 5% of the dose is absorbed after topical application to humans; systemic exposure is thus very slight.

5.3 Preclinical safety data

In long-term studies (up to 1 year) in rats and dogs no marked toxic effects were seen in either species up to oral doses of about 100 mg/kg a day. At high oral doses, the liver and possibly also the kidneys were identified as potential target organs.

In a 4-week dermal toxicity study in rabbits, Lamisil DermGel was well tolerated and devoid of systemic toxicity. Signs of mild skin irritation caused by the gel vehicle were reversible on cessation of dosing.

In a two-year oral carcinogenicity study in mice, no neoplastic or other abnormal findings attributable to treatment were made up to doses of 130 (males) and 156 (females) mg/kg a day. In a two-year oral carcinogenicity study in rats at the highest dose level, 69 mg/kg a day, an increased incidence of liver tumours was observed in males. The changes, which may be associated with peroxisome proliferation, have been shown to be species-specific since they were not seen in the carcinogenicity study in mice or in other studies in mice, dogs or monkeys.

During the studies of high dose terbinafine in monkeys, refractile irregularities were observed in the retina at the higher doses (non-toxic effect level was 50 mg/kg). These irregularities were associated with the presence of a terbinafine metabolite in ocular tissue and disappeared after drug discontinuation. They were not associated with histological changes.

A standard battery of *in vitro* and *in vivo* genotoxicity tests revealed no evidence of a mutagenic or clastogenic potential for the drug.

No adverse effects on fertility or other reproduction parameters were observed in studies in rats or rabbits.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Purified water
Ethanol 96%
Isopropyl myristate
Polysorbate 20
Carbomer
Sorbitan laurate
Benzyl alcohol
Sodium hydroxide
Butylhydroxytoluene (E321)

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

3 years.
16 weeks after first opening.

6.4 Special precautions for storage

Do not store above 30°C.

6.5 Nature and contents of container

Lamisil DermGel is available either in aluminium tubes or in laminated tubes. The aluminium tubes are coated internally with an epoxy-phenol resin lacquer, while the laminated tubes present an inner layer made of polyethylene.

The tube is closed with a polypropylene screw cap, incorporating, or not, a point to pierce the aluminium sealing membrane before first use.

Available in tube sizes 5 g, 15 g and 30 g.

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

No special requirements.

7. MARKETING AUTHORISATION HOLDER

<[To be completed nationally]>

8. MARKETING AUTHORISATION NUMBER(S)

<[To be completed nationally]>

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: <{DD/MM/YYYY}> <{DD month YYYY}>

Date of last renewal: 9 May 2007

<[To be completed nationally]>

10. DATE OF REVISION OF THE TEXT

11 February 2021