

PRODUCT MONOGRAPH  
INCLUDING PATIENT MEDICATION INFORMATION

**PrENSTILAR™**

calcipotriol and betamethasone dipropionate aerosol foam

50 mcg/g calcipotriol (as monohydrate) and  
0.5 mg/g betamethasone (as dipropionate)

Topical Antipsoriatic Agent  
Vitamin D Analogue / Corticosteroid  
DO5AX52

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# PrENSTILAR™

## calcipotriol and betamethasone dipropionate aerosol foam

### PART I: HEALTH PROFESSIONAL INFORMATION

#### SUMMARY PRODUCT INFORMATION

Route of Administration	Dosage Form / Strength	Clinically Relevant Nonmedicinal Ingredients
Topical	Aerosol Foam; 50 mcg/g calcipotriol (as monohydrate) and 0.5 mg/g betamethasone (as dipropionate)	None <i>For a complete listing see Dosage Forms, Composition and Packaging section.</i>

#### INDICATIONS AND CLINICAL USE

ENSTILAR (calcipotriol and betamethasone dipropionate) is indicated for:

- topical treatment of psoriasis vulgaris in adults for up to 4 weeks.

**Pediatrics (< 18 years of age):** The safety and efficacy of ENSTILAR in children below 18 years have not been established. The use of ENSTILAR in the pediatric population is not recommended. (See WARNINGS AND PRECAUTIONS, Special Populations)

**Geriatrics (>65 years of age):** No overall differences in safety or effectiveness of ENSTILAR were observed between the geriatric and younger subjects (See WARNINGS AND PRECAUTIONS, Special Populations)

#### CONTRAINDICATIONS

- Known hypersensitivity to any ingredient in the formulation or to components of the container (see, DOSAGE FORMS, COMPOSITION AND PACKAGING).
- Patients with known disorders of calcium metabolism.
- Skin areas having viral lesions (e.g. herpes or varicella), fungal or bacterial skin infections, parasitic infections, skin manifestations in relation to tuberculosis.
- Skin areas having perioral dermatitis, atrophic skin, striae atrophicae, fragility of skin veins, ichthyosis, acne vulgaris, acne rosacea, rosacea, ulcers and wounds.
- Erythrodermic and pustular psoriasis.

## **WARNINGS AND PRECAUTIONS**

### **General**

There is no experience with the use of ENSTILAR in guttate psoriasis.

Long term use of corticosteroids may increase the risk of local and systemic adverse reactions. Treatment should be discontinued in case of adverse reactions related to long-term use of corticosteroid (see ADVERSE REACTIONS).

### **Carcinogenesis and Mutagenesis**

Calcipotriol when used in combination with ultraviolet radiation (UVR) may enhance the known skin carcinogenic effect of UVR. This potential risk is based on the pre-clinical finding in mice of a reduced time to tumor formation from long term exposure of UVR and topically applied calcipotriol (see TOXICOLOGY, Photo(co)carcinogenicity).

Patients who apply ENSTILAR to exposed skin (e.g. a bald scalp) should avoid prolonged exposure to both natural and artificial sunlight (e.g. phototherapy, tanning beds, sun lamps, etc.).

### **Endocrine and Metabolism**

Systemic absorption of topical corticosteroids can produce reversible hypothalamic-pituitary-adrenal (HPA) axis suppression with the potential for clinical glucocorticoid insufficiency. This may occur during treatment or upon withdrawal of the topical corticosteroid.

Factors that predispose a patient using a topical corticosteroid to HPA axis suppression include the use of more potent steroids, use over large surface areas, use over prolonged periods, use under occlusion, use on an altered skin barrier, and use in patients with liver failure.

Application of topical corticosteroid products including ENSTILAR on large areas of broken skin (i.e. open sores), on mucous membranes, in skin folds or under occlusive dressings should therefore be avoided. The use of occlusion may increase penetration of the drug into the stratum corneum, increasing the risk of adverse events.

Manifestations of Cushing's syndrome, effects on the metabolic control of diabetes mellitus (e.g. hyperglycaemia, glucosuria) and unmasking of latent diabetes mellitus can also be produced in some patients by systemic absorption of topical corticosteroids.

Because of the potential for systemic absorption, use of topical corticosteroids may require that

patients be periodically evaluated for HPA axis suppression. An ACTH stimulation test may be helpful in evaluating patients for HPA axis suppression (see WARNINGS AND PRECAUTIONS, Monitoring and Laboratory Tests).

In a maximum use (up to 113 g/week) trial in adult subjects (N=35) with extensive psoriasis vulgaris treated with ENSTILAR for 4 weeks, a trend for decreased cortisol response to ACTH with increased dose was identified, but no clinically meaningful adrenal suppression was observed (see, ACTION AND CLINICAL PHARMACOLOGY).

Hypercalcemia and hypercalciuria have been observed with the use of ENSTILAR. If hypercalcaemia or hypercalciuria develop, discontinue treatment until parameters of calcium metabolism have normalized. The incidence of hypercalcemia and hypercalciuria following ENSTILAR treatment of more than 4 weeks has not been evaluated (see WARNINGS AND PRECAUTIONS/Monitoring and Laboratory).

### **Hepatic**

There are no adequate and well controlled studies of ENSTILAR use in patients with hepatic impairment. As calcipotriol and corticosteroids undergo hepatic metabolism, ENSTILAR should be used with caution in patients with severe hepatic impairment.

### **Ophthalmologic**

ENSTILAR is not for ophthalmic use. ENSTILAR may cause eye irritation. Avoid contact with the eyes.

### **Renal**

There are no adequate and well controlled studies of ENSTILAR use in patients with renal impairment. As corticosteroids undergo renal excretion, ENSTILAR should be used with caution in patients with severe renal impairment.

### **Skin**

ENSTILAR contains betamethasone dipropionate, which is a potent World Health Organization (WHO) group III steroid.. Concurrent treatment with other corticosteroids on the same treatment area should be avoided.

ENSTILAR should not be used on the face, axillae, flexures, groin or genitals. The patient must be instructed in the correct use of ENSTILAR to avoid accidental transfer or application to these regions or to the mouth, mucous membranes or eyes. Hands must be washed after each application to avoid accidental transfer to these areas (see DOSAGE AND ADMINISTRATION).

With long-term use, there is an increased risk of local and systemic corticosteroid adverse reactions. Treatment should be discontinued in the case of corticosteroid adverse reactions related to long-term use of ENSTILAR (see ADVERSE REACTIONS).

When treating psoriasis with topical corticosteroid containing products, including ENSTILAR, for a prolonged period of time, it is recommended that treatment be interrupted periodically. There may be a risk of generalised pustular psoriasis or rebound psoriasis when discontinuing treatment.

Concomitant skin infections should be treated with an appropriate antimicrobial agent. If the infection worsens, ENSTILAR should be discontinued until the infection has been adequately treated. (see CONTRAINDICATIONS).

### **Special Populations**

***Pregnant Women:*** The safety of ENSTILAR use during pregnancy has not been established. When given orally in animals, calcipotriol was associated with fetotoxicity (such as incomplete bone ossification and skeletal abnormalities). Studies in animals with orally administered betamethasone dipropionate have shown reproductive toxicity, including teratogenicity (see TOXICOLOGY, Reproduction and Teratogenicity).

A number of epidemiological studies in pregnant women have not revealed congenital anomalies among infants born to women treated with topical corticosteroids during pregnancy. However, the use of large amounts of topical corticosteroids over extensive parts of the body during pregnancy may be associated with low birth weight.

As the potential risk of using ENSTILAR during pregnancy is uncertain, ENSTILAR should be used for the shortest possible duration, in the smallest needed amounts.

***Nursing Women:*** The safety of calcipotriol and/or topical corticosteroids for use in nursing women has not been established. Betamethasone passes into breast milk, but it is not known if topical application of corticosteroid containing products, including ENSTILAR, can lead to sufficient systemic absorption to produce detectable quantities in breast milk. Caution should be exercised when prescribing ENSTILAR to women who breastfeed. The patient should be instructed not to use ENSTILAR on the breast when breastfeeding.

***Pediatrics (<18 years of age):*** The safety and efficacy of ENSTILAR in children below 18 years have not been established. Children may demonstrate greater susceptibility to systemic corticosteroid related adverse effects due to a larger skin surface area to body weight ratio as compared to adults. The use of ENSTILAR in children is not recommended.

**Geriatrics ( $\geq 65$  years of age):** Of the total number of subjects in the controlled clinical studies of ENSTILAR, 97 were 65 years or older, of which 21 were 75 years or older. No overall differences in safety or effectiveness of ENSTILAR were observed between subjects in these age ranges versus younger subjects.

However, since elderly patients have increased skin fragility, a greater frequency of hepatic, renal or cardiac dysfunction, and have concomitant disease or other drug therapy, caution is recommended when using products containing corticosteroids including ENSTILAR.

### **Monitoring and Laboratory Tests**

Treatment with ENSTILAR in the recommended amounts (See DOSAGE AND ADMINISTRATION) does not generally result in changes in laboratory values. However, in patients at risk of hypercalcaemia it is recommended that baseline serum calcium levels be obtained before starting treatment with subsequent monitoring of serum calcium levels at suitable intervals. If serum calcium becomes elevated, ENSTILAR administration should be discontinued and serum calcium levels should be measured once weekly until they return to normal.

An ACTH stimulation test may be helpful in evaluating patients for HPA axis suppression. If HPA axis suppression is documented, an attempt should be made to gradually withdraw the drug, reduce the frequency of application, or substitute a less potent steroid. Manifestations of adrenal insufficiency may require supplemental systemic corticosteroids. Recovery of HPA Axis function is generally prompt and complete upon discontinuation of topical corticosteroids (see Endocrine and, ACTION AND CLINICAL PHARMACOLOGY).

## **ADVERSE REACTIONS**

### **Adverse Drug Reaction Overview**

The most frequently reported adverse reactions during treatment are application site reactions.

### **Clinical Trial Adverse Drug Reactions**

*Because clinical trials are conducted under very specific conditions the adverse reaction rates observed in the clinical trials may not reflect the rates observed in practice and should not be compared to the rates in the clinical trials of another drug. Adverse drug reaction information from clinical trials is useful for identifying drug-related adverse events and for approximating rates.*

The rates of adverse reactions were derived from three randomized, multicenter, prospective vehicle and/or active-controlled clinical trials in 1,100 subjects with psoriasis vulgaris. A total of 564 subjects were treated with ENSTILAR once daily up to 4 weeks, and the median weekly dose of ENSTILAR was 24.8 g (mean 30.9 g).

There were no adverse reactions that occurred in  $\geq 1\%$  of subjects treated with ENSTILAR.

### **Less Common Clinical Trial Adverse Drug Reactions (<1%)**

Adverse reactions are listed by MedDRA SOC. Within each SOC group, adverse reactions are presented in order of decreasing frequency.

**Infections and infestations:** Folliculitis

**Immune system disorders:** Hypersensitivity

**Metabolism and nutrition disorders:** Hypercalcaemia

**Skin and subcutaneous tissue disorders:** Skin hypopigmentation

**General disorders and administration site conditions:** Application site pruritus, application site irritation, application site pain, rebound effect

### **Other Adverse Drug Reactions**

There are no long-term studies with ENSTILAR. However, a calcipotriol and betamethasone dipropionate ointment formulation was evaluated for 52 weeks, where patients (N=207) used the ointment intermittently on an 'as needed' basis. The following adverse drug reactions were reported in 1% or more of patients: pruritus (5.8%), psoriasis (5.3%), skin atrophy (based on a dermatologist's visual assessment) (1.9%), folliculitis (1.9%), skin burning sensation (1.4%), application site skin depigmentation (1.4%), and erythema (1.0%). One case of serious flare-up of psoriasis was reported.

The following adverse reactions are considered to be related to the pharmacological classes of calcipotriol and betamethasone dipropionate, when applied topically:

**Calcipotriol:** Adverse reactions include application site reactions, pruritus, skin irritation, burning and stinging sensation, dry skin, erythema, rash, dermatitis, psoriasis aggravated, photosensitivity and hypersensitivity reactions including very rare cases of angioedema and facial oedema.

Very rare cases of hypercalcaemia or hypercalciuria have been reported. (see, WARNINGS AND PRECAUTIONS, Endocrine and Metabolism).

**Betamethasone dipropionate:** Local reactions can occur after topical use especially during prolonged application including, skin atrophy, telangiectasia, striae, folliculitis, hypertrichosis, perioral dermatitis, allergic contact dermatitis, depigmentation and colloid milia. When treating psoriasis with topical corticosteroids, there may be a risk of generalised pustular psoriasis.

Systemic reactions due to topical use of corticosteroids are rare in adults; however, they can be severe. Adrenocortical suppression, cataract, infections, impaired glycaemic control of diabetes mellitus and increase of intra-ocular pressure can occur, especially after long-term treatment. Application of ENSTILAR under occlusion (e.g. plastic, skin folds), on large areas and for prolonged treatment periods may result in increased risk of systemic adverse events, and is therefore not recommended (see, WARNINGS AND PRECAUTIONS, Endocrine and Metabolism).

## **DRUG INTERACTIONS**

### **Drug-Drug Interactions**

No drug interaction studies have been performed with ENSTILAR.

### **Drug-Lifestyle Interactions**

During treatment with ENSTILAR, patients are advised to limit or avoid prolonged exposure to natural and artificial sunlight (e.g. phototherapy, tanning beds, sun lamps, etc.). (See, WARNINGS AND PRECAUTIONS, Carcinogenesis and Mutagenesis).

## **DOSAGE AND ADMINISTRATION**

### **Recommended Dose and Dosage Adjustment**

ENSTILAR should be applied to the affected area once daily for up to 4 weeks. The safety and efficacy of using ENSTILAR for more than 4 weeks has not been studied.

The maximum daily dose of ENSTILAR is 15 g. One 60 g can should last for at least 4 days. The maximum weekly dose should not exceed 100 g. If using other calcipotriol containing medical products concomitantly, the total weekly dose of all calcipotriol containing medical products, including ENSTILAR, should not exceed 100 g. The total body surface area treated, including scalp should not exceed 30%.

**Pediatrics (< 18 years of age):** The safety and efficacy of ENSTILAR in children below 18 years have not been established. Children may demonstrate greater susceptibility to systemic corticosteroid related adverse effects due to a larger skin surface area to body weight ratio as

compared to adults. The use of ENSTILAR in children is not recommended.

**Geriatrics ( $\geq 65$  years of age):** No overall differences in safety or effectiveness of ENSTILAR were observed between the geriatric and younger subjects

### **Missed Dose**

If a dose is missed, the patient should apply ENSTILAR when he/she remembers, but only once on a given day and then continue on as usual.

### **Administration**

- The can should be shaken before each use.
- ENSTILAR should be applied by holding the can at least 3 cm from the skin.
- ENSTILAR should be used in a well-ventilated area
- Inhalation should be avoided
- The foam can be sprayed holding the can in any orientation except horizontally.
- ENSTILAR should be rubbed gently into the affected skin areas.
- The hands should be washed after using ENSTILAR (unless ENSTILAR is used to treat the hands) to avoid accidentally spreading to other parts of the body.
- It is recommended not to take a shower or bath immediately after application of ENSTILAR.

## **OVERDOSAGE**

Usage of ENSTILAR above the recommended dose may cause elevated serum calcium which should subside when treatment is discontinued. The symptoms of hypercalcemia include polyuria, constipation, muscle weakness, confusion and coma.

Excessive prolonged use of topical corticosteroid containing products, including ENSTILAR, may result in adrenocortical suppression which is usually reversible. Symptomatic treatment may be indicated. In case of chronic toxicity, corticosteroid treatment must be discontinued gradually.

For management of a suspected drug overdose, contact your regional Poison Control Centre.
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## **ACTION AND CLINICAL PHARMACOLOGY**

### **Mechanism of Action**

ENSTILAR is a combination of calcipotriol hydrate as a synthetic vitamin D3 analogue and betamethasone dipropionate as a synthetic corticosteroid.

Calcipotriol is a vitamin D receptor agonist which normalizes the proliferation and differentiation of keratinocytes as potently as 1,25(OH)<sub>2</sub>D<sub>3</sub>, the naturally occurring active form of vitamin D. Vitamin D receptor agonists also have an immunomodulatory effect, suppressing activation and differentiation of Th17/Th1 cells while inducing a Th2/Treg response. However, calcipotriol is much less active than 1,25(OH)<sub>2</sub>D<sub>3</sub> in its effect on calcium metabolism.

Betamethasone dipropionate, like other corticosteroids, is a glucocorticoid receptor agonist with anti-inflammatory, immunosuppressive, anti-pruritic and vasoconstrictive properties.

In ENSTILAR, the combination of calcipotriol and betamethasone dipropionate has greater anti-inflammatory and anti-proliferative effects than either component alone.

### **Pharmacodynamics**

The vasoconstrictor activity of ENSTILAR observed in a study in healthy volunteers indicates that the potency of ENSTILAR is higher than that of the marketed calcipotriol plus betamethasone dipropionate ointment formulation, but less than clobetasol propionate cream.

The effect of ENSTILAR on hypothalamic-pituitary-adrenal (HPA) axis function and calcium metabolism was studied in patients with extensive body and scalp psoriasis who applied up to 113 g of ENSTILAR per week. A trend for decreased cortisol response to ACTH with increased dose was identified but no patient demonstrated adrenal suppression defined as cortisol level  $\leq 18$  mcg/dL 30-minute post-stimulation following 4 weeks of therapy. There was no evidence of change of calcium metabolism in these patients.

### **Pharmacokinetics**

**Absorption:** An *in vitro* permeation study using pig ear skin compared the penetration of calcipotriol and betamethasone dipropionate at 2, 6 and 21 hrs after application of ENSTILAR and a calcipotriol/betamethasone dipropionate ointment. ENSTILAR resulted in greater penetration of both calcipotriol and betamethasone dipropionate into the skin than the ointment. The amounts measured in the recipient fluid were low, but overall they were also higher with ENSTILAR than with the ointment formulation.

Plasma levels of calcipotriol and betamethasone dipropionate and their main metabolites were measured after 4 weeks of once daily application of ENSTILAR to 15-30% of the body surface area (scalp and body). Calcipotriol was quantifiable in 1 of 35 (2.9%) subjects and its main metabolite, MC1080, in 3 of 35 (8.6%) subjects. The plasma concentrations of calcipotriol and MC1080 ranged between <50 - 55.9 pg/mL and <20 - 26.6 pg/mL, respectively. Betamethasone dipropionate was quantifiable in 5 of 35 (14.3%) subjects and its main metabolite,

betamethasone 17-propionate (B17P), was quantifiable in 27 of 35 (77.1%) subjects. The plasma concentrations of betamethasone dipropionate and B17P ranged between <30 - 81.1 pg/mL and <30 - 1133 pg/mL, respectively.

***Distribution:*** In rats, tissue distribution studies with radiolabelled calcipotriol and betamethasone dipropionate, respectively, showed that the kidney and liver had the highest level of radioactivity.

***Metabolism:*** Following systemic exposure, both active ingredients – calcipotriol and betamethasone dipropionate – are rapidly and extensively metabolised.

Calcipotriol metabolism following systemic uptake is rapid and occurs in the liver. The primary metabolites of calcipotriol are less potent than the parent compound. Calcipotriol is metabolized to MC1046 (the  $\alpha,\beta$ -unsaturated ketone analog of calcipotriol), which is metabolized further to MC1080 (a saturated ketone analog). MC1080 is the major metabolite in plasma. MC1080 is slowly metabolized to calcitroic acid.

Betamethasone dipropionate is metabolized primarily in the liver to betamethasone 17-propionate and betamethasone, including the 6 $\beta$ -hydroxy derivatives of those compounds by hydrolysis. Betamethasone 17-propionate (B17P) is the primary metabolite.

***Excretion:*** The main route of excretion of calcipotriol is via faeces (rats and minipigs) and for betamethasone dipropionate it is via urine (rats and mice).

### **Special Populations and Conditions**

***Hepatic Insufficiency:*** As calcipotriol and corticosteroids undergo hepatic metabolism, ENSTILAR should be used with caution in patients with severe hepatic impairment.

***Renal Insufficiency:*** As corticosteroids undergo renal excretion, ENSTILAR should be used with caution in patients with severe renal impairment.

## **STORAGE AND STABILITY**

Store ENSTILAR between 15° to 30°C.

Contents under pressure. Do not place in hot water or near radiators, stoves or other sources of heat. Do not puncture or incinerate container or store at temperatures over 50°C.

Keep in a safe place out of the reach and sight of children.

After opening, the product should be stored at room temperature (15° to 30°C) and should be used within 6 months, and before the expiry date.

## **SPECIAL HANDLING INSTRUCTIONS**

The propellants in ENSTILAR are very flammable. Do not use in presence of open flame or spark.

## **DOSAGE FORMS, COMPOSITION AND PACKAGING**

ENSTILAR is a white to off-white, opalescent liquid in a pressurized can. After spraying, a white to off-white flat, non-expanding foam is formed. The product is alcohol-free and odourless.

**Composition:** 50 mcg/g calcipotriol (as monohydrate) plus 0.5 mg/g betamethasone (as dipropionate)

**Non-medicinal ingredients:** all-rac- $\alpha$ -tocopherol, butylhydroxytoluene, liquid paraffin, polyoxypropylene-11-stearyl ether and white soft paraffin

**Propellants:** butane, dimethyl ether

**Packaging:** Aluminium can with an inner lacquer, equipped with a continuous valve and actuator. The can contains 60 g of ENSTILAR, not including the amount of propellants.

**Pack sizes:** 60 g and 2 x 60 g. Not all pack sizes may be marketed.

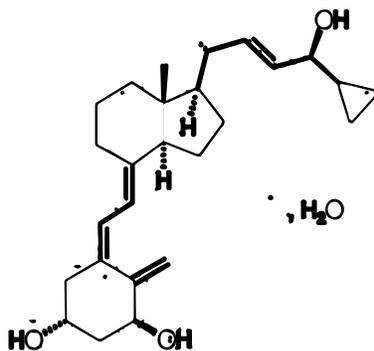
## PART II: SCIENTIFIC INFORMATION

### PHARMACEUTICAL INFORMATION

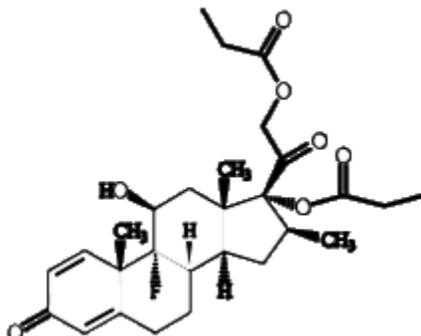
#### Drug Substance

Proper name (I.N.N.):	<u>Calcipotriol hydrate</u>	<u>Betamethasone dipropionate</u>
Chemical name:	9,10-Secochola-5,7,10(19),22-tetraene-1,3,24-triol, 24-cyclopropyl-, monohydrate, (1 $\alpha$ ,3 $\beta$ ,5Z,7E,22E,24S),	9-fluoro-11 $\beta$ ,17,21-trihydroxy-16 $\beta$ -methylpregna-1,4-diene-3,20-dione 17,21-dipropionate
Alternative chemical name:	20(R)-(3'(S)-Cyclopropyl-3'-hydroxyprop-1'(E)-enyl)-1(S),3(R)-dihydroxy-9-10-secopregna-5(Z),7(E),10(19)-triene, hydrate	Pregna-1,4-diene-3,20-dione,9-fluoro-11-hydroxy-16-methyl-17,21-bis(1-oxopropoxy)-(11 $\beta$ ,16 $\beta$ )
Laboratory code name:	MC 903, hydrate MC 903, H <sub>2</sub> O	433 or 433/M
Molecular formula:	C <sub>27</sub> H <sub>40</sub> O <sub>3</sub> , H <sub>2</sub> O	C <sub>28</sub> H <sub>37</sub> FO <sub>7</sub>
Molecular mass:	430.6	504.6
Chirality:	The calcipotriol molecule is one single stereoisomer. The absolute configuration of the chiral centres at carbon atoms nos. 1, 3, 13, 14, 17, 20 and 24 is indicated in the structural formula below.	

Structural formula:  
Calcipotriol hydrate



## Betamethasone dipropionate



### Physicochemical properties :

*Physical form:*

*Solubility at room temperature:*

*Melting point:*

*Polymorphism:*

*Other characteristics:*

#### Calcipotriol hydrate

White or almost white crystalline substance.

Freely soluble in ethanol, soluble in chloroform and propylene glycol, practically insoluble in liquid paraffin. Solubility in water is 0.6 mcg/ml.

166-168 °C

So far no signs have indicated the existence of polymorphic forms.

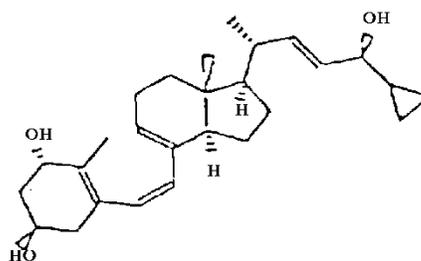
Calcipotriol is a vitamin D derivative. It is well-known that vitamin D in solution forms a reversible temperature dependent equilibrium between vitamin D and pre-vitamin D (described in (i.e.) J Pharm Sci 1968; 57:1326). In the same way, solutions of calcipotriol establish an equilibrium with “pre-calcipotriol”. The structural formula of “pre-calcipotriol” is shown below.

#### Betamethasone dipropionate

White or almost white odourless powder.

Freely soluble in acetone, in dioxane, in dichloromethane and in chloroform; soluble in methanol; sparingly soluble in alcohol; slightly soluble in ether; insoluble in water and in hexane.

176-180 °C



## CLINICAL TRIALS

The efficacy of once daily use of ENSTILAR has been investigated in three randomised, double-blind or investigator-blind, 4-week clinical trials (Table 1).

### Study Demographics and Trial Design

**Table 1. Summary of Study Demographics and Trial Design**

Study #	Trial design	Dosage, route of administration and duration	Study subjects (n = number)	Mean age (Range)	Gender
LP0053-1001	Phase 3, multi-centre, randomised (3:1), double-blind, 2-arm; ENSTILAR vs. foam vehicle	Topical, once daily application to body, 4-week duration	426 (323 used ENSTILAR; 103 used vehicle)	50.0 yrs (18-87 yrs)	M 253 F 173
LEO 90100-7	Phase 3, POC, multi-centre, randomised (1:1:1), double-blind, 3-arm; ENSTILAR vs. BDP* vs. calcipotriol	Topical, once daily application to body and scalp, 4-week duration	302 (100 used ENSTILAR; 101 used BDP in foam vehicle; 101 used calcipotriol in foam vehicle)	49.0 yrs (20-85 yrs)	M 170 F 132

LEO 90100-35	Phase 2, multi-centre, comparative, randomised (3:1:3:1), investigator-blind, 4-arm: ENSTILAR vs. foam vehicle vs. Dovobet® ointment vs. ointment vehicle	Topical, once daily treatment on body, 4-week duration	376 (141 used ENSTILAR; 49 used foam vehicle; 135 used Dovobet Ointment; 51 used ointment vehicle)	50.4 yrs (21-88)	M 234 F 142
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*\*BDP: betamethasone dipropionate*

The patient populations included in the three clinical trials that support the efficacy of ENSTILAR (LP0053-1001, LEO 90100-7, and LEO 90100-35) were adult subjects with psoriasis vulgaris on the body (i.e. trunk and limbs) and, in LEO 90100-7, also on the scalp, where 2% - 30% of body surface area (BSA) was affected.

Each of the three trials included subjects with a range of disease severity levels at baseline, from ‘mild’ to ‘severe’ according to the Physician’s Global Assessment (PGA) of disease severity. The PGA is made using a 5-point scale (clear, almost clear, mild, moderate and severe) based on the average psoriatic lesion. Approximately 75% of subjects across trials had ‘moderate’ disease (PGA), and up to 10% of subjects had 'severe' disease on the body at baseline. The subjects also had a modified psoriasis area severity index (m-PASI) of at least 2. The m-PASI is a composite score assessing severity (erythema, scale and induration) and affected area (excluding face and skin folds).

The primary endpoint was subjects with ‘treatment success’ (‘clear’ or ‘almost clear’ for subjects with at least moderate disease at baseline, ‘clear’ for subjects with mild disease at baseline) according to the PGA at Week 4.

**Table 2. Disease-related baseline characteristics**

	<b>LP0053-1001 (N=426)</b>	<b>LEO 90100-7 (N=302)</b>	<b>LEO 90100-35 (N=376)</b>
Baseline disease severity (PGA)			
Mild	65 (15.3%)	41 (13.6%)	63 (16.8%)
Moderate	319 (74.9%)	230 (76.2%)	292 (77.7%)
Severe	42 (9.9%)	31 (10.3%)	21 (5.6%)
Mean BSA (range)	7.5% (2– 30%)	7.1% (2 – 28%)	7.5% (2-30%)
Mean m-PASI (range)	7.5 (2.0-47.0)	7.6 (2.0-28.0)	6.8 (2.0-22.6)

**Study Results**

Results for the primary endpoint ‘treatment success’ of body at Week 4, as measured by PGA, showed ENSTILAR to be statistically significantly more effective than all the comparators included and responses were observed in all categories of baseline disease severity.

**Table 3. Percentage of subjects with ‘treatment success’ according to the PGA of the body at Week 4.**

	ENSTILAR	Foam vehicle	BDP* in foam vehicle	Calcipotriol in foam vehicle	Dovobet® Ointment	Ointment vehicle
LP0053-1001	(N=323) 53.3 %	(N=103) 4.8 %	-	-	-	-
LEO 90100-7	(N=100) 45.0 %	-	(N=101) 30.7 %	(N=101) 14.9 %	-	-
LEO 90100-35	(N=141) 54.6 %	(N=49) 6.1 %	-	-	(N=135) 43.0 %	(N=51) 7.8 %

\*BDP: *betamethasone dipropionate*

In LEO 90100-7 the effect of ENSTILAR on scalp psoriasis was investigated as the percentage of subjects with ‘treatment success’ according to the PGA of the scalp at Week 4.

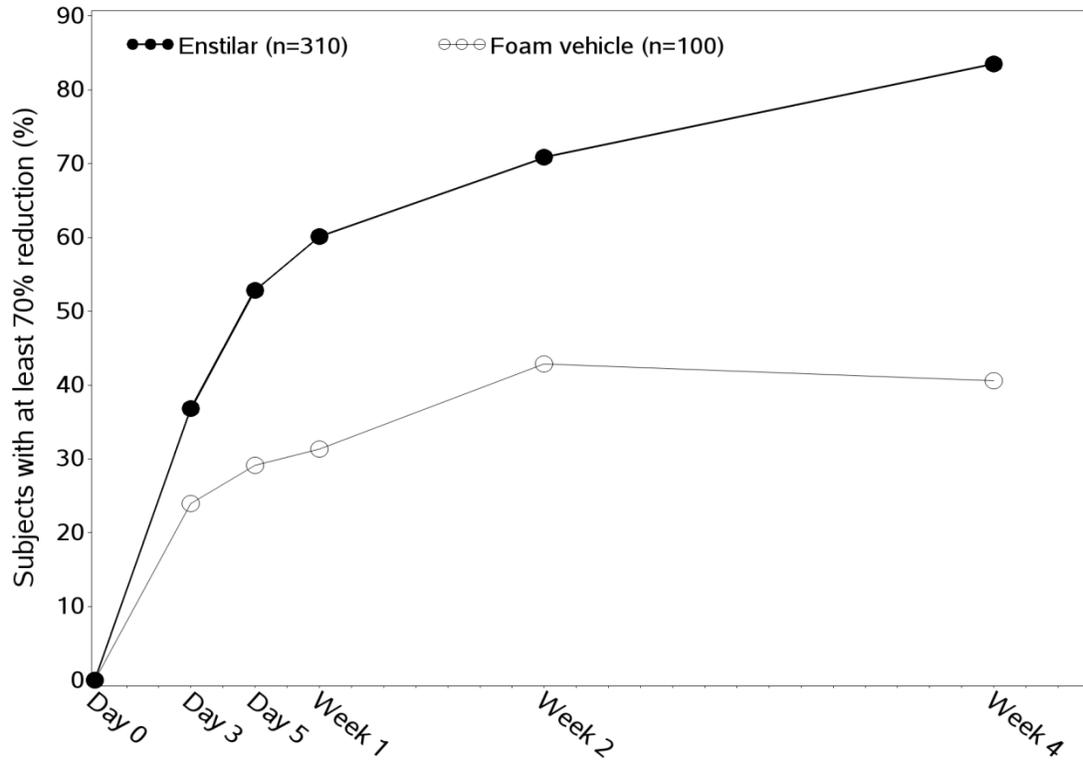
**Table 4. Percentage of subjects with ‘treatment success’ according to the PGA of the scalp at Week 4.**

	ENSTILAR	BDP in foam vehicle	Calcipotriol in foam vehicle
LEO 90100-7	(N=100) 53.0 %	(N=101) 47.5 %	(N=101) 35.6 %

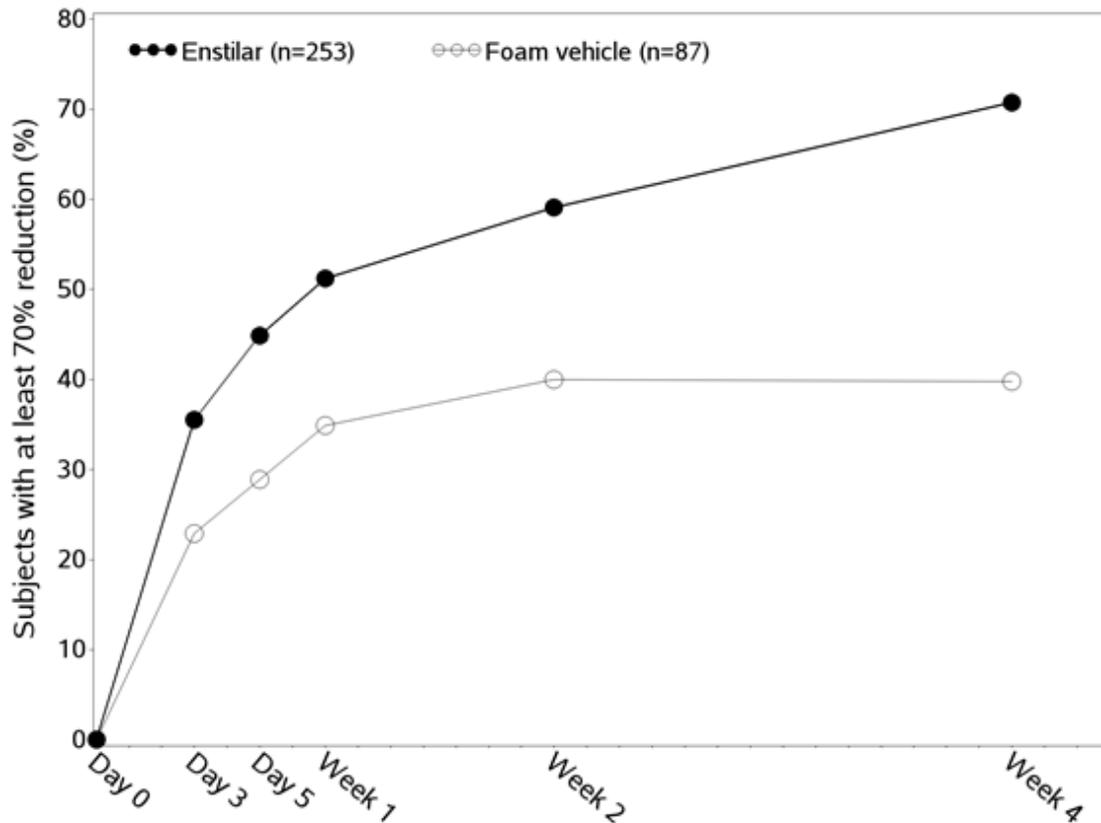
ENSTILAR was statistically significantly more effective compared to calcipotriol and also associated with a higher rate of treatment success than BDP but this comparison did not reach statistical significance.

The effect of once daily use of ENSTILAR on itch and itch-related sleep loss was investigated in LP0053-1001 by assessments with a horizontal visual analogue scale (VAS) where the range was from 0 millimeters (mm) (no itch at all; no sleep loss at all) to 100 mm (worst itch you can imagine; worst possible sleep loss). Only subjects who reported itch and itch-related sleep loss at baseline were evaluated.

**Figure 1. Percentage of subjects achieving at least 70% reduction in itch compared to baseline in LP0053-1001**



**Figure 2. Percentage of subjects achieving at least 70% reduction in itch-related sleep loss compared to baseline in LP0053-1001**



Statistically significant differences of at least 70% reduction in both itch and itch-related sleep loss were observed in favor of subjects receiving ENSTILAR compared to those receiving foam vehicle from Day 3 and throughout the treatment period.

Quality of life was investigated in LP0053-1001 by means of the generic EQ-5D-5L and the dermatologically specific DLQI. Statistically significantly greater improvement in quality of life, measured by DLQI, was demonstrated for subjects receiving ENSTILAR compared to those receiving foam vehicle from Week 1 and throughout the treatment period. Measured by EQ-5D-5L, a statistically significantly greater improvement in favor of subjects receiving ENSTILAR compared to those receiving foam vehicle was demonstrated at Week 4.

### **Long-term Use**

There is no long-term data available with ENSTILAR.

## DETAILED PHARMACOLOGY

### Preclinical Studies

#### Pharmacodynamics

Calcipotriol is a synthetic vitamin D3 analogue which binds to the vitamin D receptor and stimulates vitamin D regulated transcription. *In vitro* pharmacodynamic studies have shown the activity of calcipotriol to be very similar, both qualitatively and quantitatively, to that of 1,25(OH)<sub>2</sub>D<sub>3</sub>. Vitamin D receptor agonists have a normalizing effect on human keratinocytes, arresting growth and enhancing differentiation in inappropriately proliferating cells. Vitamin D receptor agonists also have an immunomodulatory effect, suppressing activation and differentiation of Th17/Th1 cells while inducing a Th2/Treg response. Through these effects on T cells, calcipotriol may interrupt the pro-inflammatory feedback loop that drives the inflammatory hyperproliferative response of keratinocytes in psoriasis.

*In-vivo* however, the effects of calcipotriol were significantly different from those of 1,25(OH)<sub>2</sub>D<sub>3</sub>. From studies performed in rats, it was shown that the effect of calcipotriol on calcium metabolism was at least 100 to 200 times lower than that of 1,25(OH)<sub>2</sub>D<sub>3</sub>. The low activity of calcipotriol on calcium metabolism is attributed to a rapid metabolic degradation of the active compound.

Betamethasone dipropionate in ENSTILAR is a synthetic corticosteroid. Corticosteroids suppress the immune system, particularly pro-inflammatory cytokines and chemokines, thereby inhibiting T-cell activation. At the molecular level, corticosteroids act via the intracellular glucocorticoid receptor and the anti-inflammatory function is due to transrepression of pro-inflammatory transcription factors such as nuclear factor κB, activator protein-1, and interferon regulatory factor-3.

#### Pharmacokinetics

*In vivo*: Oral absorption of calcipotriol was approximately 60% in rats and 40% in minipigs. The half-life of calcipotriol was 12 minutes in rats and 60 minutes in minipigs. The major metabolite of calcipotriol MC1080 was present in the first plasma sample at 5 minutes; its half-life was 54 minutes in rats and 1.8 hours in minipigs. Drug-related radioactivity was excreted in urine and faeces and clearance was considered to be almost exclusively metabolic, as less than 5% of the administered radioactivity was excreted at the time of disappearance of all calcipotriol from plasma. Autoradiography studies performed in rats established that calcipotriol concentrations were highest in the liver, kidney and intestine. No drug-related radioactivity was present 24 hours after administration of <sup>3</sup>H-calcipotriol.

Following oral administration to rats at 0.02, 0.06 and 0.2 mg/kg/day, the concentration of betamethasone dipropionate was below the lower limit of quantification (75 pg/mL) in all samples. The  $C_{max}$  values of the main metabolite betamethasone 17-propionate were 3 – 5 fold higher in female than in male rats and the  $AUC_{inf}$  values were generally 5 fold higher in female than in male rats. In all dose groups and in both genders the  $t_{max}$  of betamethasone 17-propionate was 0.5 hours and the half-life was 0.28 – 0.46 hours with no difference between genders.

The main route of excretion was via the faeces for calcipotriol and via urine for betamethasone dipropionate.

Following dermal administration of calcipotriol/betamethasone dipropionate ointment to minipigs, the transdermal absorption of  $^3H$ -calcipotriol and  $^3H$ -betamethasone dipropionate was 2.1 - 3.5% and 3.3 - 3.5%, respectively, of the administered dose.

*In vitro:* An *in vitro* permeation study using pig ear skin compared the penetration of calcipotriol and betamethasone dipropionate at 2, 6 and 21 hrs after application of ENSTILAR and a calcipotriol/betamethasone dipropionate ointment. ENSTILAR resulted in approximately 3-fold greater penetration of calcipotriol into the skin and approximately 2-fold greater penetration of betamethasone dipropionate than the ointment. The amounts measured in the recipient fluid were low, but also higher with ENSTILAR than with the ointment formulation.

Two main metabolites of calcipotriol were observed in incubations of calcipotriol with rat liver homogenate supernatants. The two metabolites, MC1046 and MC1080, were isolated, identified and synthesized. Both metabolites were also present in supernatants from minipig, rabbit and human liver homogenates and in plasma samples from rats and minipigs. Although the necessity of using very high dosages of calcipotriol precludes the study of calcipotriol metabolism in humans, the present evidence strongly suggests that calcipotriol metabolism is qualitatively similar in rats, minipigs, rabbits and humans. In addition, both metabolites had lost most of the biological activity associated with calcipotriol thus constituting a deactivation pathway for the drug.

## **Human Studies**

### **Pharmacodynamics**

In a vasoconstrictor study conducted in healthy volunteers, ENSTILAR was compared to corticosteroids of different potencies and the skin blanching response of ENSTILAR was greater than that of a combination product of calcipotriol plus betamethasone dipropionate (a potent corticosteroid) in ointment formulations but less than that of clobetasol propionate (a super potent corticosteroid) cream.

Effects on the HPA axis and calcium metabolism were evaluated in a maximum use (up to 113 g/wk) trial in adult subjects (N=35) with extensive psoriasis involving at least 30% of the scalp and, in total, 15-30% of the body surface area. Treatment consisted of once daily application of ENSTILAR on the scalp and body for 4 weeks. There was a trend for decreased cortisol response to ACTH with increased dose, however, adrenal suppression, as indicated by a 30-minute post-stimulation cortisol level  $\leq 18$ mcg/dL, was not observed in any subjects after 4 weeks of treatment.

There was no change in mean serum or urinary calcium levels and serum and urinary calcium levels were within the normal range for all subjects.

In addition, effects of once daily application of ENSTILAR for 4 weeks on calcium metabolism in adult subjects (N=564) with psoriasis vulgaris were examined in three randomized, multicenter, prospective vehicle- and/or active-controlled clinical trials. There were no changes in mean serum or urinary calcium levels. However, elevated serum calcium levels outside the normal range were observed in 3 subjects and elevated urinary calcium levels outside the normal range were observed in 17 subjects.

### **Pharmacokinetics**

Plasma levels of calcipotriol and betamethasone dipropionate and their main metabolites were measured after 4 weeks of once daily application of ENSTILAR to 15-30% of the body surface area (scalp and body). Calcipotriol was quantifiable in 1 of 35 (2.9%) subjects and its main metabolite, MC1080, in 3 of 35 (8.6%) subjects. The plasma concentrations of calcipotriol and MC1080 ranged between  $<50 - 55.9$  pg/mL and  $<20 - 26.6$  pg/mL, respectively. Betamethasone dipropionate was quantifiable in 5 of 35 (14.3%) subjects and its main metabolite, betamethasone 17-propionate (B17P), was quantifiable in 27 of 35 (77.1%) subjects. The plasma concentrations (of betamethasone dipropionate and B17P) ranged between  $<30 - 81.1$  pg/mL and  $<30 - 1133$  pg/mL, respectively.

## **TOXICOLOGY**

### **Acute and Long-term Toxicity**

**Calcipotriol:** Despite the intended topical use of calcipotriol in the treatment of psoriasis, most of the toxicological studies were performed using the oral route of administration. This was done to assure maximum exposure to the compound. From these studies it was evident that toxicity associated with the administration of pharmacologically excessive doses of calcipotriol was due to the calcitropic activity of the compound. The maximum doses were 54 mcg/kg/day in rats, 18 mcg/kg/day in minipigs and 3.6 mcg/kg/day in dogs. In the acute, subacute and chronic toxicity studies the main signs of toxicity were loss of bodyweight, increases in plasma

or serum calcium, creatinine and urea, renal toxicity and soft tissue calcifications. These changes resulted from the exaggerated absorption of calcium and phosphorous from the intestine and are characteristic of vitamin D overdosage. The kidney was the main target organ of toxicity and tubular lesions and calcifications were apparent after prolonged hypercalcemia in all species investigated.

***Betamethasone dipropionate:*** Betamethasone dipropionate is a widely used and well-characterized corticosteroid which has been shown to have metabolic and toxicological effects typical for corticosteroids. Oral administration of betamethasone dipropionate for up to 13 weeks in rats produced expected signs of toxicity, including body weight loss, leucopenia/lymphopenia and dose-related decreases in thymus and spleen weights along with pathological findings in these organs. Reduced body weight gain was observed in females at all dose levels (0.02, 0.06 and 0.2 mg/kg) and in high- and mid-dose males. The number of white blood cells was decreased (leucopenia) along with a decreased number of lymphocytes (lymphopenia) in the mid- and high-dose groups. In a 13-week dermal mouse study, adverse effects (reduced body weight gains or pathological findings in the spleen and thymus) were observed at dosages above 10 µg/kg/day. The NOAEL in this study was considered to be 3.3 µg/kg/day. In general, results from repeat dose toxicity studies demonstrated that adverse effects were associated with the known pharmacological activity of betamethasone dipropionate which exhibits immunosuppressive properties.

***Calcipotriol and Betamethasone Dipropionate:*** Two dermal studies of 4-week and 9-month duration respectively were conducted in minipigs to assess local and systemic toxicity. In both studies, minipigs received daily topical administration of calcipotriol and betamethasone dipropionate ointment at doses of 2/20, 10/100 and 50/500 mcg/g. The main observation was erythema of varying severity seen primarily in the high dose group. There were no systemic effects after 4 weeks, however after 9 months systemic absorption resulted in dermal atrophy of non-treated skin.

### **Local Tolerance**

A 4-week local dermal tolerance study was performed using four minipigs to assess any differences in irritant potential of calcipotriol and betamethasone dipropionate foam and the vehicle. The frequency of treatment was once daily topical non-occlusive application for 4 weeks. The treatment with calcipotriol and betamethasone dipropionate foam resulted in very slight, clinically and microscopically visible skin irritation and in minimal multifocal epidermal atrophy. No skin changes were seen after treatment with the corresponding foam vehicle.

### **Reproduction and Teratogenicity**

Animal reproduction studies have not been conducted with calcipotriol and betamethasone

dipropionate.

**Calcipotriol:** Studies with oral doses of up to 54 mcg/kg/day of calcipotriol indicated no impairment of fertility or general reproductive performance in male and female rats, nor on their F1 generation progeny.

Teratogenicity studies with calcipotriol were performed by the oral route in rats and rabbits. In rabbits, increased maternal toxicity (body weight loss, reduced food intake, maternal death and abortion) and fetal toxicity (reduced mean fetal weight) were noted at a dosage of 12 mcg/kg/day. A dosage of 36 mcg/kg/day resulted in similar maternal and fetal toxicity characteristics; in addition, a significant increase in the incidence of incomplete ossification of the pubic bones and forelimb phalanges of fetuses was observed. In a rat study, a dosage of 54 mcg/kg/day resulted in a significantly increased incidence of skeletal abnormalities (enlarged fontanelles and extra ribs). The enlarged fontanelles were most likely due to the effect of calcipotriol upon calcium metabolism. The estimated maternal and fetal no-adverse effect levels (NOAEL) in the rat and rabbit are 18 mcg/kg/day and 4 mcg/kg/day, respectively.

An oral peri- and post-natal development study was conducted with rats. Pregnant Wistar rats were dosed daily with calcipotriol at exposures of 0, 6, 18 or 54 mcg/kg/day from gestation day 15 through day 20 postpartum. No remarkable effects were observed on any parameters, including survival, behavior, body weight, litter parameters, or the ability to nurse or rear pups.

**Betamethasone dipropionate:** Studies in male rats at oral doses of up to 200 mcg/kg/day, and in female rats at oral doses of up to 1000 mcg/kg/day, of betamethasone dipropionate indicated no impairment of fertility.

Corticosteroids have been shown to be teratogenic in laboratory animals when administered systemically at relatively low dosage levels. Betamethasone dipropionate has been shown to be teratogenic in mice and rabbits when given by the subcutaneous route at dosages of 156 mcg/kg/day and 2.5 mcg/kg/day, respectively. The abnormalities observed included umbilical hernia, exencephaly, skeletal malformations and cleft palate.

An oral peri- and post-natal development study was conducted with rats. Betamethasone dipropionate was evaluated for effects when orally administered to pregnant rats from gestation day 6 through day 20 postpartum at dosages of 0, 100, 300, and 1000 mcg/kg/day. Reduced mean maternal body weight and prolonged gestation were detected in the treatment groups. Moreover, reduction in offspring survival, reduced body weight, and impaired righting reflex was observed. No effects on the ability of pups to learn were observed post-weaning, and the ability of the offspring of treated rats to reproduce was not affected.

## **Mutagenicity**

**Calcipotriol:** Calcipotriol did not elicit any genotoxic effects in the Ames mutagenicity assay, the mouse lymphoma TK locus assay, the human lymphocyte chromosome aberration test, or the mouse micronucleus test.

**Betamethasone dipropionate:** Betamethasone dipropionate did not elicit any genotoxic effects in the Ames mutagenicity assay, the mouse lymphoma TK locus assay, or in the rat micronucleus test.

## **Carcinogenicity**

**Calcipotriol:** A dermal carcinogenicity study in mice showed no indications of increased carcinogenic risks. Calcipotriol solution was applied topically for up to 24 months at doses of 3, 10 and 30 mcg/kg/day. The high-dose was considered to be the Maximum Tolerated Dose for dermal treatment of mice with calcipotriol. Survival was decreased at 10 and 30 mcg/kg/day; particularly in the males. The reduced survival was associated with an increased incidence of obstructive uropathy, most probably caused by treatment-related changes in the urinary composition. This is an expectable effect of treatment with high doses of calcipotriol or other vitamin D analogues. There were no dermal effects and no dermal or systemic carcinogenicity.

A 104-week oral carcinogenicity study was conducted with calcipotriol in male and female rats at doses of 1, 5 and 15 mcg/kg/day. Beginning week 71, the dosage for high-dose animals of both genders was reduced to 10 mcg/kg/day. A treatment-related increase in benign C-cell adenomas was observed in the thyroid of females that received 5 or 15 mcg/kg/day and males receiving 15 mcg/kg/day. A treatment-related increase in benign pheochromocytomas was observed in the adrenal glands of males receiving 15 mcg/kg/day. No other statistically significant differences in tumor incidence were observed when compared to control. The relevance of these findings to patients is unknown.

**Betamethasone dipropionate:** When betamethasone dipropionate was applied topically to CD-1 mice for up to 24 months at dosages approximating 1.3, 4.2 and 8.5 mcg/kg/day in females, and 1.3, 4.2, and 12.9 mcg/kg/day in males, no significant changes in tumor incidence were observed when compared to control.

When betamethasone dipropionate was administered via oral gavage to male and female Sprague Dawley rats for up to 24 months at dosages of 20, 60, and 200 mcg/kg/day, no significant changes in tumor incidence were observed when compared to control.

**Photo(co)carcinogenicity**

***Calcipotriol:*** In a study where albino hairless mice were repeatedly exposed to both ultraviolet radiation (UVR) and topically applied calcipotriol for 40 weeks at the same dose levels as in the dermal carcinogenicity study (see above), a reduction in the time required for UVR light to induce the formation of skin tumours was observed (statistically significant in males only), suggesting that calcipotriol may enhance the effect of UVR to induce skin tumours. The clinical relevance of these findings is unknown.

***Betamethasone dipropionate:*** No photocarcinogenicity studies have been performed with betamethasone dipropionate alone.

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## READ THIS FOR SAFE AND EFFECTIVE USE OF YOUR MEDICINE

### PATIENT MEDICATION INFORMATION

#### <sup>PR</sup>ENSTILAR™

#### calcipotriol and betamethasone dipropionate aerosol foam

Read this carefully before you start using Enstilar™ and each time you get a refill. This leaflet is a summary and will not tell you everything about this drug. Talk to your healthcare professional about your medical condition and treatment and ask if there is any new information about Enstilar™.

#### **What is Enstilar™ used for?**

Enstilar™ is used to treat adults with a skin condition called psoriasis vulgaris.

#### **How does Enstilar™ work?**

Enstilar™ contains two medicines, calcipotriol and betamethasone, that work together to control psoriasis.

Psoriasis causes areas of inflamed skin where skin cells grow too fast. This creates red, scaly, thick patches (plaques) of skin.

Calcipotriol is a vitamin D-like substance that helps to bring the rate of skin cell growth back to normal. Betamethasone is a corticosteroid that works to reduce inflammation (redness, swelling and itching).

#### **What are the ingredients in Enstilar™?**

Medicinal ingredients: calcipotriol (as monohydrate) and betamethasone (as dipropionate)

Non-medicinal ingredients: all-rac- $\alpha$ -tocopherol, butylhydroxytoluene, liquid paraffin, polyoxypropylene-11-stearyl ether and white soft paraffin.

Propellants: butane, dimethyl ether

#### **Enstilar™ comes in the following dosage forms:**

Enstilar™ is a white to off-white flat, non-expanding aerosol foam containing 50 mcg/g calcipotriol (as monohydrate) and 0.5 mg/g betamethasone (as dipropionate). The product is alcohol-free and odourless.

#### **Do not use Enstilar™:**

- if you are allergic to any of the ingredients in Enstilar™ or the container (aluminium).
- if you have a condition that affects your calcium levels.
- if you have a skin infection caused by a virus, fungus, bacteria or parasite.
- if you have a skin condition related to tuberculosis.
- on areas with perioral dermatitis (rash around the mouth).

- on areas with thin skin, stretch marks or fragile veins.
- on areas with dry scaly skin caused by a condition called ichthyosis.
- on areas that have acne (pimples, redness), rosacea (red flushed facial skin), ulcers or wounds.
- if you have a type of psoriasis with severe inflammation called erythrodermic psoriasis, or a type of psoriasis with pus-filled blisters called pustular psoriasis.

**To help avoid side effects and ensure proper use, talk to your healthcare professional before you use Enstilar™. Talk about any health conditions or problems you may have, including if you:**

- have diabetes
- have a skin infection or if skin areas with psoriasis become infected
- use other medicines that contain corticosteroids or calcipotriol
- are pregnant or planning to get pregnant
- are breastfeeding
- are over 65 years old
- have problems with your kidneys or liver

**Other warnings you should know about:**

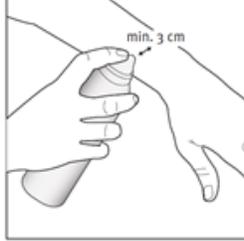
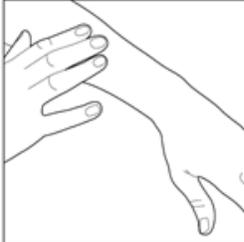
- Do not use Enstilar™ on your face, under the arms, in the groin area, in skin folds/creases or on areas of broken skin.
- Do not bandage, cover or wrap the treated skin area after applying Enstilar™.
- Limit or avoid prolonged exposure to natural and artificial sunlight (such as phototherapy, tanning beds and sun lamps) while using Enstilar™.
- Enstilar™ is not recommended for use in children.

**Tell your healthcare professional about all the medicines you take, including any drugs, vitamins, minerals, natural supplements or alternative medicines.**

**The following may interact with Enstilar™:**

The use of Enstilar™ with other medicines has not been studied. However, since medicines can interact with each other, tell your healthcare professional if you are using other medicines to treat your psoriasis. In particular, tell them if you are using medicines that contain corticosteroids.

## How to use Enstilar™:

1. Shake the can before use.	
2. Hold the can at least 3 cm (1.2 inches) from the skin and spray.  Use only on areas of your skin affected by psoriasis. If you accidentally get foam on your face, wipe it off right away.	
3. The foam can be sprayed by holding the can in any orientation except horizontally.  Use in well-ventilated area and avoid inhalation	
4. Gently rub the foam into the affected skin areas.	
5. After applying the medication, put the cap back on the can. This will prevent accidental spraying when not in use.	
6. Leave the treated areas uncovered. Do not bandage, cover or wrap the skin. Enstilar™ should be left on the body until fully absorbed. Do not shower or take a bath immediately after application.	
7. Wash your hands after using Enstilar™ (unless you are using it to treat your hands). This will avoid accidentally spreading the foam to other parts of your body (especially the face, mouth and eyes).	

### Recommended dose:

Apply once daily to affected areas for up to 4 weeks. Do not use more than 15g/day. One 60g can should last for at least 4 days. The maximum weekly dose of Enstilar™ (including other products containing calcipotriol) is 100g.

**Overdose:**

If you think you have used too much **Enstilar™**, contact your healthcare professional, hospital emergency department or regional Poison Control Centre immediately, even if there are no symptoms.

**Missed Dose:**

If you forget to use Enstilar™, use it as soon as you remember. Next time, follow your regular application routine. Do not use Enstilar™ more than once a day.

**What are possible side effects from using Enstilar™?**

These are not all the possible side effects you may feel when using **Enstilar™**. If you experience any side effects not listed here, contact your healthcare professional.

Side effects from using Enstilar™ may include:

- itching, irritation or pain
- drying or reddening of the skin
- a burning or stinging sensation
- various types of skin rashes (dermatitis)
- acne
- small white spots
- thinning skin, stretch marks or surface veins
- red and swollen hair follicles
- changes in hair growth
- skin infection
- lightening of skin colour
- facial rash and swelling

<b>Serious side effects and what to do about them</b>			
Symptom / effect	Talk to your healthcare professional		Stop taking drug and get immediate medical help
	Only if severe	In all cases	
<b>UNCOMMON</b> <b>Worsening of psoriasis:</b> red, scaly, thick patches of skin		✓	
<b>RARE</b> <b>Pustular psoriasis:</b> chills, feeling unwell, fever, headache, joint pain, loss of appetite, nausea, red area with yellowish pimples			✓
<b>Adrenal effects:</b> fatigue, increased urination/thirst, problems controlling blood sugar levels, weakness, weight		✓	

loss			
<b>VERY RARE</b> <b>Allergic reaction:</b> dizziness, itching, rash, swelling, trouble breathing,			✓
<b>Hypercalcaemia:</b> constipation, depression, fatigue, increased urination/thirst, loss of appetite, mental confusion, nausea, vomiting			✓

If you have a troublesome symptom or side effect that is not listed here or becomes bad enough to interfere with your daily activities, talk to your healthcare professional.

<p><b>Reporting Side Effects</b></p> <p>You can help improve the safe use of health products for Canadians by reporting serious and unexpected side effects to Health Canada. Your report may help to identify new side effects and change the product safety information.</p> <p><b>3 ways to report:</b></p> <ul style="list-style-type: none"> <li>• Online at <a href="http://hc-sc.gc.ca/dhp-mps/medeff/index-eng.php">MedEffect (http://hc-sc.gc.ca/dhp-mps/medeff/index-eng.php)</a>;</li> <li>• By calling 1-866-234-2345 (toll-free);</li> <li>• By completing a Consumer Side Effect Reporting Form and sending it by: <ul style="list-style-type: none"> <li>- Fax to 1-866-678-6789 (toll-free), or</li> <li>- Mail to: Canada Vigilance Program Health Canada, Postal Locator 0701E Ottawa, ON K1A 0K9</li> </ul> </li> </ul> <p>Postage paid labels and the Consumer Side Effect Reporting Form are available at <a href="http://hc-sc.gc.ca/dhp-mps/medeff/index-eng.php">MedEffect (http://hc-sc.gc.ca/dhp-mps/medeff/index-eng.php)</a>.</p> <p><i>NOTE: Contact your health professional if you need information about how to manage your side effects. The Canada Vigilance Program does not provide medical advice.</i></p>
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**Storage:**

Store Enstilar™ between 15° to 30°C.

After opening, the product should be stored at room temperature (15° to 30°C) and should be used within 6 months, and before expiry date. Keep out of reach and sight of children.

Contents under pressure. Do not place in hot water or near radiators, stoves or other sources of heat. Do not puncture or incinerate container or store at temperatures over 50°C. The product is very flammable. Do not use in presence of open flame or spark.

**If you want more information about Enstilar™:**

- Talk to your healthcare professional
- Find the full product monograph that is prepared for healthcare professionals and includes this Patient Medication Information by visiting the Health Canada website (<http://hc-sc.gc.ca/index-eng.php>); the manufacturer's website [www.leo-pharma.ca](http://www.leo-pharma.ca), or by calling 1-800-668-7234.

This leaflet was prepared by LEO Pharma Inc.

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