

Composition

Psoria ointment contains chamomile german (*matricaria recutita*) essential oil 15mg/g, cholecalciferol (vitamin D₃) 0.5&g/g, lavender (*lavandula angustifolia*) essential oil 10mg/g, rosemary (*rosmarinus officinalis*) essential oil 10mg/g, tea tree (*melaleuca alternifolia*) essential oil 20mg/g and stabilised emu oil (*dromaius novaehollandiae*) 50mg/g in a smooth ointment base. Contains Butylated Hydroxyanisole 1.0mg/g and tocopheryl acetate 1.0mg/g as oxidation inhibitors. Psoria also contains Propyl Hydroxybenzoate 1.5mg/g and Sodium Hydroxymethylglycinate 2.0mg/g as preservatives.

Pharmacology

Chamomile german essential oil contains several compounds which have anti-allergenic and anti-inflammatory activity. These include azulene, bisabolol and guaiazulene, all of which display marked reduction of inflammation in both carrageenin oedema and cotton pellet granuloma rat models¹. Bisabolol also inhibits ulcer formation due to ethanol, indomethacin and stress in animal models². Emu oil has demonstrated marked anti-inflammatory activity in animal models. Snowden³ demonstrated certain emu oil samples to be comparable with prednisolone in anti-inflammatory activity in carageenan induced oedema in rats. Whitehouse⁴ demonstrated similar anti-inflammatory action, with certain emu oil samples displaying greater inflammation reduction than naproxen in the adjuvant induced arthritis rat model. The most active emu oil as confirmed by Whitehouse is used in Psoria Ointment. The active component(s) in emu oil are yet to be identified. Emu oil contains a very unusual triglyceride comprising oleic (unsaturated) and palmitic (saturated) fatty acid residues. This triglyceride may explain in part the unusual properties of emu oil. In contrast to other anti-inflammatories such as NSAID's and corticosteroids both chamomile german and emu oil appear not to delay wound healing.

Vitamin D activity is a well known ameliorator of the cellular hyperproliferation found in psoriasis. Cholecalciferol in Psoria is present at 0.5&g/g which supplies a basal vitamin D dosage akin to dietary RDI. Skin irritation and calcium metabolism changes are negligible at this low concentration.

Lavender oil has displayed marked local anaesthetic activity in both the rabbit conjunctival reflex test and the rat phrenic nerve-hemidiaphragm preparation⁵. This action is probably effected by linalol and linalyl acetate and would explain lavender's use as an anti-pruritic. Lavender oil also inhibits mast cell mediated immediate-type allergic reactions in mice and rats⁶. This effect, seen both in vivo and in vitro appears due to inhibition of mast cell degranulation. The azulenes from chamomile german also have anti-allergy properties. Inhibition of histamine release is thought to be the mechanism.

Rosemary essential oil contains caffeic acid and its derivatives such as rosmarinic acid. Rosemarinic acid is well absorbed from the skin. It increases production of (the gastro-protective) prostaglandins E₂ and reduces the production of leukotriene B₄ in human polymorphonuclear leucocytes, and inhibits the complement system⁷.

Recent evidence points to the role of bacterial superantigens in inflammatory skin diseases such as psoriasis and eczema⁸. Toxins from bacteria including *Staphylococcus aureus* and *Streptococcus* have been shown to bypass the normal control of T-cell activation and activate all T-cell clones bearing certain types of variable chain on the T-cell receptor; this leads to vigorous T-cell activation and cytokine release. Psoria Ointment utilises the antibiotic properties of tea tree oil to counter this superantigen mechanism. Tea tree oil contains anti-bacterial and anti-fungal compounds including 1,8 cineole, linalool, terpinen-4-ol, α turpineol, α and γ -turpinene and terpinolene. Studies by Carson⁹ indicate not only a high degree of susceptibility to these compounds by *S. aureus* and *Str (Ent) faecalis*, but demonstrate the susceptibility of many pathogenic microbes including *C. albicans*, *B. Subtilis*, *Cl perfringens* and *Ps. aeruginosa*. Mode of anti-microbial action appears to be via the cell wall or membrane.

Carson also noted a relative sparing of resident skin flora by tea tree oil, whilst being more active against transient skin flora. Tea tree oil also has a good degree of tissue penetration, owing to its lipophilic nature. Psoria Ointment contains a number of other anti-microbial essential oils including rosemary, lavender, chamomile german, eucalyptus and peppermint.



Indications

Psoria Ointment is indicated for the temporary relief of symptoms associated with psoriasis and eczema.

Precautions

Although Psoria Ointment is available without prescription, it is advised that Psoria be used in the context of a regular review of the patient's condition by a medical practitioner.

Allergic reactions to one or more of the components of Psoria Ointment may occasionally occur. Possible allergy inducing components include rosemary, lavender, chamomile german, tea tree, eucalyptus and peppermint essential oils, as well as cholecalciferol and propyl hydroxybenzoate.

Use in Pregnancy

Due to its rosemary and peppermint oils Psoria Ointment is not recommended in the first 4 months of pregnancy. Use of Psoria during pregnancy is best monitored by a medical practitioner. Vitamin D (0.5µg/g) content in Psoria Ointment is very low and represents negligible risk during pregnancy.

Use in Lactation

Psoria Ointment is suitable to use for breast feeding mothers.

Paediatric Use

Psoria Ointment is suitable for use in children. Medical advice should be sought before using Psoria Ointment in children under the age of one.

Interactions**Calcipotriol and other vitamin D analogues**

Since one jar (50g) of Psoria Ointment contains only 25µg of cholecalciferol (less than 3 days RDI for vitamin D) it is unlikely to affect treatment with calcipotriol (Daivonex) or other vitamin D analogues.

Topical Steroids

No interactions have been recorded with Psoria Ointment and either halogenated or non-halogenated corticosteroid topical preparations. Psoria Ointment may be used in combination with these products, under suitable medical consultation. Psoria Ointment may be effectively used to minimise fungal and bacterial infection often associated with the impaired local immunity caused by topical steroids.

Adverse Reactions

Psoria Ointment is well tolerated. Local irritation or rash may uncommonly occur. An allergic reaction involving erythema may rarely occur, if so, discontinue use.

Dosage and Administration**For Children and Adults**

Apply gently to affected skin or lesions up to three times daily initially; application rate may be reduced to once daily as symptoms are controlled. For scalp lesions part hair away from lesion with one hand whilst applying Psoria Ointment with the other hand. Avoid contact with the eyes.

Psoria Ointment is pigmented blue due to its azulene content. It is generally non-staining. If clothing or bed linen is affected clean immediately with warm slightly soapy water.

Overdosage

Psoria has a low degree of toxicity. Up to 2 jars (100g) may be used weekly with safety. At dosages higher than 100g per week monitoring for possible effects on serum calcium may be advisable.



In the case of oral ingestion the most toxic ingredients would be tea tree oil and eucalyptus oil, although they only comprise 2% each w/w of the product. It should be noted that chamomile german is a powerful protector against gastric irritation. Observation with suitable symptomatic support is recommended. Rarely gastric lavage may be required. It is unlikely that significant amounts of Psoria Ointment would be ingested, given the pungent nature of its essential oils.

Pack

50 gram (1.76 ounces) supplied in amber glass jar – generally sufficient for 2 months use. Store below 30°C/86°F. Avoid direct sunlight on jar

Availability

Non-prescription.
Aust L 75653

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¹ Shirochliev, Dimitrov, Aleksandrova, 1981., Anti-inflammatory Action of a Group of Plant Extracts., Vet-Med., Nauki, 18: 87-94

² Szelenyi, Issac and Thieme. 1979., Pharmacological Experiments with Compounds of chamomile., Planta Med., 35: 218-227

³ Snowden, O'Malley and Ellis, 1999., Emu Oil: It's Anti-inflammatory Properties., Rural Industries Research and Development Corporation., Publication 99/133

⁴ Whitehouse, Turner, Davis and Roberts, 1998., Emu oil(s): A Source of Non-toxic Transdermal Anti-inflammatory Agents in Aboriginal Medicine., Inflammopharmacology 1998., 6: 1-8

⁵ Ghelardini, Galeotti, Salvatore and Mazzanti., Local Anaesthetic Activity of the Essential oil of Lavandula angustifolia., Planta Med., 1999 Dec; 65 (8): 700-3

⁶ Kim and Cho., Lavender Oil Inhibits Immediate-type Allergic Reaction in Mice and Rats., J Pharm Pharmacol., 1999 Feb; 51 (2): 221-6

⁷ Al-Sereiti, Abu-Amer and Sen., Pharmacology of Rosemary (Rosmarinus officinalis) and Its Therapeutic Potentials., Indian J Exp Biol., 1999 Feb; 37 (2): 124-30

⁸ Skov, Baadsgaard., "Bacterial Superantigens and Inflammatory Skin Disease", Clin Exp Dermatol 2000., Jan; 25 (1): 57-61

⁹ Carson, Riley., Anti-Microbial Activity of Tea Tree Oil: A Report for the Rural Industries Research and Development Corporation., July 1998, RIRDC Publication 98/70

