

## **PRODUCT MONOGRAPH**

### **TOPICORT<sup>®</sup>**

(desoximetasone cream, USP, 0.25%)

### **TOPICORT<sup>®</sup> MILD**

(desoximetasone cream, USP, 0.05%)

### **TOPICORT<sup>®</sup> GEL**

(desoximetasone gel, USP, 0.05%)

### **TOPICORT<sup>®</sup> OINTMENT**

(desoximetasone ointment, USP, 0.25%)

Topical Steroid

Valeant Canada LP / Valeant Canada S.E.C.  
4787 Levy St.  
Montreal, QC  
H4R 2P9

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## **ACTIONS**

TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel and Ointment are primarily effective because of their anti-inflammatory, anti-pruritic and vaso-constrictive actions.

## **INDICATIONS**

TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel and Ointment are indicated for the relief of acute or chronic corticosteroid-responsive dermatoses.

## **CONTRAINDICATIONS**

Topical corticosteroids are contraindicated in untreated bacterial, tubercular, fungal and most viral lesions of the skin (including herpes simplex, vaccinia and varicella) and in those patients with a history of hypersensitivity to any of the components of the preparation.

TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel and Ointment are not for ophthalmic use.

## **WARNINGS**

Systemic side-effects may occur with topical corticosteroid preparations, particularly when these preparations are used over large areas or for an extended period of time or with occlusive dressings. A patient who has been on prolonged therapy, especially occlusive therapy, may develop adrenal suppression due to sufficient absorption of the steroid.

The safety of topical corticosteroid preparations during pregnancy and lactation has not been established. The potential benefit should be weighed in these conditions against possible hazard to the fetus or the nursing infant. When indicated, they should not be used extensively, in large amounts or for prolonged periods of time in pregnant patients or nursing mothers.

## **PRECAUTIONS**

### **General:**

Children may absorb proportionally larger amounts of topical corticosteroids and thus be more susceptible to systemic toxicity. [See “Paediatric Use” below].

If local infection exists, suitable concomitant antimicrobial or antifungal therapy should be administered as primary therapy. If it is considered necessary, the topical corticosteroid may be used as an adjunct to control inflammation, erythema and itching. If a favorable response does not occur promptly, application of the corticosteroid should be discontinued until the infection is adequately controlled.

If local irritation or sensitization develops, TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel and Ointment should be discontinued and appropriate therapy instituted.

The use of occlusive dressings increases the percutaneous absorption of corticosteroids; their extensive use increases the possibility of systemic effects and is therefore not advisable. For patients with extensive lesions it may be preferable to use a sequential approach, treating one portion of the body at a time. The patient should be kept under close observation if treated with large amounts of topical corticosteroid or with the occlusive technique over a prolonged period of time.

Occlusive dressings should not be applied if there is an elevation of body temperature.

Patients should be advised to inform subsequent physicians of the prior use of corticosteroids.

Topical corticosteroids should be used with caution on lesions close to the eyes.

Prolonged use of topical corticosteroid products may produce atrophy of the skin and of subcutaneous tissues, particularly on flexor surfaces and on the face. If this is noted, discontinue the use of this product.

The product should be used with caution in patients with stasis dermatitis and other skin diseases associated with impaired circulation.

### **Paediatric Use:**

**Paediatric patients may demonstrate greater susceptibility to topical corticosteroid induced**

**HPA axis suppression and Cushing's syndrome than mature patients because of a larger skin surface area to body weight ratio.**

Hypothalamic-pituitary-adrenal [HPA] axis suppression, Cushing's syndrome and intracranial hypertension have been reported in children receiving topical corticosteroids. Manifestations of adrenal suppression in children include linear growth retardation, delayed weight gain, low plasma cortisol levels and absence of response to ACTH stimulation. Manifestations of intracranial hypertension include bulging fontanelles, headaches and bilateral papilledema.

Administration of topical corticosteroids to children should be limited to the least amount compatible with an effective therapeutic regimen. Chronic corticosteroid therapy may interfere with the growth and development of children.

### **ADVERSE REACTIONS**

TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel and Ointment are well tolerated; side effects have been rare. Similar to other topical corticosteroid preparations, they may cause burning sensation, dryness, itching, erythema, change in skin pigmentation, folliculitis, pyoderma, striae, telangiectasia and skin atrophy. The following reactions are reported when corticosteroid preparations are used extensively on intertriginous areas or under occlusive dressings: maceration of the skin, secondary infection, striae, miliaria, hypertrichosis and localized skin atrophy.

Adrenal suppression has been shown to occur with prolonged use of large doses of topical corticosteroids, particularly under occlusion due to increased percutaneous absorption.

Posterior subcapsular cataracts have been reported following systemic use of corticosteroids.

### **SYMPTOMS AND TREATMENT OF OVERDOSAGE**

Toxic effects due to prolonged percutaneous absorption of large amounts of corticosteroids may include: reversible suppression of adrenal function, skin striae, ecchymoses, discoloration or atrophy, acneiform eruptions, hirsutism, infection. Prolonged systemic corticosteroid action may cause hypertension, peptic ulceration, hypokalemia, muscle weakness and wastage and subcapsular cataracts.

Treatment should include symptomatic therapy and discontinuation of corticosteroid administration. In chronically affected patients, a gradual discontinuation may prevent the development of steroid withdrawal symptoms.

### **DOSAGE AND ADMINISTRATION**

Apply a thin film of TOPICORT<sup>®</sup> (desoximetasone) Creams, Gel or Ointment to the affected

skin areas twice daily. Rub in gently.

## **DOSAGE FORMS**

TOPICORT<sup>®</sup> is supplied as a formulation containing desoximetasone USP, 0.25%, isopropyl myristate, wool alcohols ointment, wool alcohols, methylparaben, propylparaben and water in tubes of 20 g and 60 g.

TOPICORT<sup>®</sup> Mild is supplied as a formulation containing desoximetasone USP, 0.05%, isopropyl myristate, wool alcohols ointment, wool alcohols, methylparaben, propylparaben, lactic acid, edetate disodium and water in tubes of 20 g and 60 g.

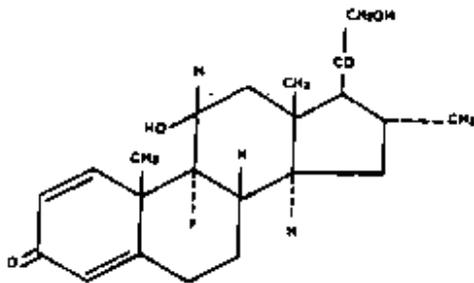
TOPICORT<sup>®</sup> Gel is supplied as a formulation containing desoximetasone USP, 0.05%, isopropyl myristate, Carbomer Homopolymer Type C, alcohol, docusate sodium, edetate disodium, trolamine and water in extended-tip tubes of 60 g.

TOPICORT<sup>®</sup> Ointment is supplied as a formulation containing desoximetasone USP, 0.25%, propylene glycol USP, white petrolatum USP and Dehymuls<sup>®</sup> E in tubes of 60 g. Dehymuls<sup>®</sup> E is a proprietary mixture of Sorbitan Sesquioleate, Dicoyl Pentaerythrityl, Distearyl Citrate, Beeswax, Aluminum Stearates, and Vitamin E (trace amount).

Desoximetasone is a Schedule F prescription drug.

Storage: Store at room temperature, between 15-30 °C.

## CHEMISTRY



Molecular Formula: C<sub>22</sub>H<sub>29</sub>FO<sub>4</sub>      Molecular Weight: 376.46

Chemical Name: 9 $\alpha$ -fluoro,11 $\beta$ ,21-dihydroxy-16 $\alpha$ -methylpregna-1,4-diene-3,20-dione

Description: White to practically white crystalline powder, with a melting range between 206°C and 218 °C. Insoluble in water; freely soluble in alcohol, in acetone and in chloroform.

## PHARMACOLOGY

In experimental studies in laboratory animals desoximetasone was demonstrated to have potent anti-inflammatory activity when compared with other corticosteroids following local or systemic administration.

In the “Granuloma Patch Test” (with croton oil), desoximetasone showed an activity comparable to dexamethasone and approximately ten times weaker than fluocinolone.

Following oral or subcutaneous administration to rats, desoximetasone was five times less potent than dexamethasone in inhibiting granuloma formation (induced by subcutaneously implanted cotton pellets) and in the thymolytic assay system.

A potent anti-inflammatory activity could also be demonstrated comparatively with prednisolone and hydrocortisone following local and topical administration to rats. When administered into the pouch, desoximetasone inhibited granuloma formation twice as effectively as prednisolone and seven times as effectively as hydrocortisone, but was slightly less effective than dexamethasone. When cotton pellets were impregnated with the test drugs prior to implantation, desoximetasone was 3.5 times as potent as prednisolone and six times as potent as hydrocortisone, but four times less potent than dexamethasone.

Additional investigations confirmed the potent glucocorticoid effect following systemic administration. In adrenalectomized fasted rats, the ability of desoximetasone to induce glycogen

deposition in the liver was three times less than that of dexamethasone. Following subcutaneous administration, both desoximetasone and dexamethasone showed definite diuretic, natriuretic and kaliuretic effects in rats.

Following subcutaneous injection of <sup>3</sup>H-labelled desoximetasone to rats, the blood maximum concentration was observed one hour after administration. The half-life of the tested compound was 2.3 hours. The drug was rapidly eliminated in the urine and feces, with 95% of the administered radioactivity recovered within 24 hours.

The dermal absorption of <sup>3</sup>H-labelled desoximetasone was studied in rats; blood level reached a peak at 24 hours. Urinary and fecal excretion accounted for 5-10% of the applied dose. Urinary excretion was four times greater than fecal excretion with 50% of the former as unchanged drug.

## TOXICOLOGY

In acute toxicity studies in mice, rats, rabbits and dogs, the oral LD<sub>50</sub> (95% confidence limits) were determined as follows:

Mice:	1519 (1144-2016) mg/kg
Rats:	1469 (935-2152) mg/kg
Rabbits:	2546 (1926-3365) mg/kg

Mice and rats tolerated a single dose of 50 mg/kg of desoximetasone in various formulations when given either orally, intraperitoneally or subcutaneously.

In an acute oral toxicity study, all rats survived a dose of 36 g/kg desoximetasone gel. Toxic effects, attributed to the alcohol excipient, were decreased spontaneous activity and respiratory rate, ataxia and diminished or absent corneal, tail pinch, and righting reflexes.

Rabbits tolerated a single dose of about 5 mg/kg of desoximetasone, when topically applied to the intact skin for 24 hours. The oral LD<sub>50</sub> (with 95% confidence limits) in neonatal rats were 230 (204-260) mg/kg for desoximetasone as compared to 134 (96-188) mg/kg for dexamethasone. Neonatal rats survived a single, intraperitoneal dose of 50 mg/kg of desoximetasone, whereas the same dose of dexamethasone killed 7 of 19 pups.

In subacute and chronic toxicity studies the abnormal findings reflected the known systemic effects of corticosteroids.

Subcutaneous administration of desoximetasone to rats for 14 days was well tolerated at the dose of 25 µg/kg. Doses of 100 µg/kg inhibited the body weight gain. Rats given 400 and 1600 µg/kg showed depression in body weight gain and decrease in weights of the thymus, adrenals and spleen.

In similar studies of 26-week duration, the effects of desoximetasone were compared to those of

dexamethasone in rats and dogs. Rats given 50 µg/kg showed a significant elevation of blood glucose. Systemic effects of corticosteroids were seen with doses of 160 µg/kg and 500 µg/kg of desoximetasone, the latter dose was also associated with systemic infection and death in 55% of the males and 5% of the females. Dexamethasone, at the dose of 50 µg/kg showed similar but much less pronounced effects than desoximetasone at 500 µg/kg. In dogs, typical and dose-related systemic corticosteroid effects were observed in animals treated with doses of 200 to 800 µg/kg. Dexamethasone, at the dose of 200 µg/kg, produced more frequent and more marked steroid effects than those observed with 800 µg/kg of desoximetasone.

Dermal application of desoximetasone on intact or abraded skin was studied in rats, rabbits and dogs. Large doses of desoximetasone applied to the skin for 3 to 24 weeks produced typical local and systemic corticosteroid effects which were attributed to percutaneous absorption.

Desoximetasone failed to produce any signs of irritation when applied directly to the conjunctival sac of the rabbit eye, except for a slight lacrimation immediately following the application. When applied as an emollient cream, the preparation was very well tolerated. When 100 mg of desoximetasone gel 0.05% was instilled into one eye of six New Zealand white rabbits, the other eye serving as a control, very slight conjunctival redness was observed in one treated eye.

A single dose of 100 mg instilled into the right eye of New Zealand white rabbits male and female, the left used as control, failed to produce any sign of ocular mucosal irritation to 72 hours after application and therefore, desoximetasone 0.25% ointment is not considered an irritant to the eye.

Reproduction and teratology studies were done in mice, rats and rabbits.

Desoximetasone, given subcutaneously at the dose of 1600 µg/kg to pregnant mice during gestational days 7-15, induced a depression of body weight gain and an expected slight increase in the incidence of cleft palate in the fetuses. By comparison, dexamethasone produced, at the lower dose of 400 µg/kg, a higher incidence of cleft palate in the fetuses.

Desoximetasone and especially dexamethasone produced an inhibitory effect on the weight gain of adult male and female rats during the pre-mating period. The fertility rates were not affected, however, a higher than normal number of resorptions was observed in rats given 100 µg/kg of dexamethasone. Lower, dose-dependent birth weights of pups as compared to controls were seen in treated animals, especially in those given dexamethasone.

Administered subcutaneously to pregnant rats during gestational days 8-16, desoximetasone produced, at the doses of 400 and 100 µg/kg, depression of body weight gain in the dams during the treatment period. A retardation of ossification of the odontoid process and an increased incidence of lumbar ribs were also noted.

Topical application of 0.25% desoximetasone ointment to the intact skin of rats during gestational days 7-16 and of rabbits during gestational days 7-19 produced typical corticosteroid

effects in treated animals. The dams showed decreased weight gain, increased rate of abortion, and *in utero* fetal death. Delivered fetuses exhibited varying degrees of growth retardation and corticosteroid induced malformations which were dose-dependent.

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