## 1. Name of the Medicinal Product

(a) Product Name : FEXOGON CREAM
(b) Pharmaceutical Dosage Form : Cream

## 2. Quality and Quantitative Composition

(a) Qualitative Declaration, the active substance should be declared by its recommended INN. Accompanied by its salt or hydrate form if relevant.

**Composition:**
Each gram contains:

| | | |
|---|---|---|
| Triamcinolone Acetonide | BP | 1 mg |
| Econazole Nitrate | BP | 10 mg |
| Gentamycin Sulphate | BP | |
| Eq. to Gentamycin | | 1 mg |
| Cream base | | q.s. |

(b) Quantitative Declaration, the quantity of the active substance must be expressed per dosage unit

| Sr. No. | Name of the Materials | Specification | Label Claim | Quantity / tube | Active/ Inactive |
|---|---|---|---|---|---|
| 1 | Triamcinolone Acetonide | B.P. | 1 mg | 30 mg | Active |
| 2 | Econazole Nitrate | B.P. | 10 mg | 300 mg | Active |
| 3 | Gentamycin Sulphate Eq. to Gentamycin | B.P. | 1 mg | 30 mg | Active |

## 3. Pharmaceutical Form Visual description of the appearance of the product (colour, markings, etc.) e.g.:

White colour semi solid cream having characteristic odour filled in printed lemi tube.

## 4. Clinical Particulars

### 4.1 Therapeutic Indications:

- FEXOGON CREAM is indicated for the topical treatment of inflammatory dermatomycoses and inflammatory skin conditions complicated by bacterial or fungal skin infection:

- Allergic inflammatory dermatoses (eczema, dermatitis, diaper dermatitis, intertrigo, etc)

- Trychophytosis (tinea pedis, tinea corporis, tinea faciei, tinea capitis, tinea cruris, tinea sycosis etc)
- Skin candidiasis, vulvovaginal candidiasis, tricomonas & vaginitis.
- Bacteria skin infections caused by susceptible strains to gentamicin.

## 4.2 Posology and method of administration:

Apply to the affected area once to several times daily as directed by the physician.

## 4.3 Contraindications:

- Patients with hypersensitivity to any of the components of Econazole Nitrate, Triamcinolone Acetonide and Gentamicin Cream.
- Patents with tuberculosis, varicella, herpes simplex, herpes zoster, vaccinia and syphilis.
- Patients with eczematous otitis externa and perforated eardrum.
- Ulcer (Behcet's disease), burn (exceed 2°)
- Patients who have previously exhibited hypersensitivity to aminoglycoside antibiotic (such as Streptomycin, Neomycin, Kanamycin and Gentamicin) and Bacitracin.

## 4.4 Special warning and precautions for use:

- Discontinue drug if sensitivity or chemical irritation occurs.
- Long-term continuous therapy particularly occlusive dressings should be avoided since it may cause side effects same as systemic administration of corticosteroid.
- Avoid long-term therapy: the overgrowth of non-susceptible organisms, including fungi, occasionally occurs with the use of topical antibiotic. If this occurs, or if irritation, sensitization, or super infection develops, treatment should be discontinued and appropriate therapy instituted.
- If the symptom aren't being improved or are aggravated, discontinue the therapy.
- If the symptom is improved, change the drug to other non-steroidal drug as soon as possible.

## 4.5 Interaction with other medicinal products and other forms of interactions:

Not Applicable

## 4.6 Pregnancy and lactation:

Pregnancy:
Not the Econazole but the Triamcinolone Acetonide crosses the placenta and topical administration of corticosteroids to pregnant animals can cause abnormalities of foetal development. The relevance of this finding to human beings has not been established. However, topical steroids in large amounts or for prolonged periods should not be used in pregnancy.

Lactation:

Negligible amount of econazole and to some extent Triamcinolone may be excreted in small amounts in breast milk. So, this cream should not be prescribed to the lactating mother or if prescribed lactation should be withheld during treatment.

### 4.7 Effects on ability to drive and use machine:

Not Applicable

### 4.8 Undesirable effects:

Rarely, transient local mild irritation, itching & redness may occur immediately after application. Econazole has minimal allergenic effect and is well tolerated, even by delicate skin. Adrenal suppression on long term continuous topical steroid therapy may occur, particularly in infants or children, or when occlusive dressings are applied. It should be noted that an infant's napkin may act as an occlusive dressing.

### 4.9 Overdose:
**Symptoms and signs of overdose**

Econazole Nitrate, Triamcinolone Acetonide & Gentamicin Cream is intended for topical use. If accidental ingestion of large quantities of the product occurs, an appropriate method of gastric emptying may be used if considered desirable. Topically applied corticosteroid can be absorbed in sufficient amounts to produce systemic effects such as thinning of the skin, increased sweating, purpura, striae, hirsutism, lupus erythematosus-like lesions and suppressed reactions to skin tests.

## 5. Pharmacological Properties

### 5.1 Pharmacodynamic Properties:
Pharmacotherapeutic group: Anti-Fungal

Econazole is an antifungal medication related to fluconazole (Diflucan), ketoconazole (Nizoral), itraconazole (Sporanox), and clotrimazole (Lotrimin, Mycelex). Econazole prevents fungal organisms from producing vital substances required for growth and function. This medication is effective only for infections caused by fungal organisms. It will not work for bacterial or viral infections.

Triamcinolone and its derivatives are synthetic glucocorticoids that are used for their anti-inflammatory or immunosuppressive properties.

Gentamicin is a broad spectrum aminoglycoside antibiotic. Aminoglycosides work by binding to the bacterial 30S ribosomal subunit, causing misreading oft-RNA, leaving the bacterium unable to synthesize proteins vital to its growth. Aminoglycosides are useful primarily in infections involving aerobic, Gram-negative bacteria, such as Pseudomonas, Acinetobacter, and Enterobacter. In addition, some mycobacteria, including the bacteria that cause tuberculosis, are susceptible to aminoglycosides. Infections caused by Gram-positive bacteria can also be treated with aminoglycosides, but other types of antibiotics are more potent and less damaging to the host. In the

past the aminoglycosides have been used in conjunction with penicillin-related antibiotics in streptococcal infections for their synergistic effects, particularly in endocarditis. Aminoglycosidesare mostly ineffective against anaerobic bacteria, fungi and viruses

## 5.2 Pharmacokinetic Properties:

Econazole nitrate: Econazole interacts with 14-a demethylase, a cytochrome P-450 enzyme necessary to convert lanosterol to ergosterol. As ergosterol is an essential component of the fungal cell membrane, inhibition of its synthesis results in increased cellular permeability causing leakage of cellular contents. Econazole may also inhibit endogenous respiration, interact with membrane phospholipids, inhibit the transformation of yeasts to mycelial forms, inhibit purine uptake, and impair triglyceride and/or phospholipid biosynthesis. After topical application to the skin of normal subjects, systemic absorption of Econazole nitrate is extremely low. Although most of the applied drug remains on the skin surface, drug concentrations were found in the stratum corneum which, by far, exceeded the minimum inhibitory concentration for dermatophytes.

Triamcinolone nitrate: The anti-inflammatory actions of corticosteroids are thought to involve lipocortins, phospholipase A2 inhibitory proteins which, through inhibition of arachidonic acid, control the biosynthesis of prostaglandins and leukotrienes. The immune system is suppressed by corticosteroids due to a decrease in the function of the lymphatic system, a reduction in immunoglobulin and complement concentrations, the precipitation of lymphocytopenia, and interference with antigen-antibody binding. Rapid absorption following oral administration.

Gentamicin: Aminoglycosides like gentamicin "irreversibly" bind to specific 30S-subunit proteins and 16S rRNA. Specifically gentamicin binds to four nucleotides of 16S rRNA and a single amino acid of protein S12. This interferes with decoding site in the vicinity of nucleotide 1400 in 16S rRNA of 30S subunit. This region interacts with the wobble base in the anticodon of tRNA. This leads to interference with the initiation complex, misreading of mRNA so incorrect amino acids are inserted into the polypeptide leading to nonfunctional or toxic peptides and the breakup of polysomes into nonfunctional monosomes. Injections lead to peak serum concentrations in 30-60 minutes

Topical gentamicin is readily absorbed from large burned, denuded, or granulating areas but not through intact skin. Absorption of gentamicin is faster and greater with the cream compared to the ointment. Gentamicin is absorbed in small quantities following topical application to the eye. Gentamicin is also absorbed in small amounts following topical application to the ear ( especially if the eardrum is perforated or if tissue damage is present).

**5.3 Preclinical Safety Data:**
**Carcinogenesis, Mutagenesis & Fertility**

Triamcinolone Acetonide caused no treatment-related carcinogenicity at oral doses up to 3.0 mcg/kg in a two-year study. No evidence of mutagenicity was detected from in vitro tests (a reverse mutation test in Salmonella bacteria and a forward mutation test in Chinese hamster ovary cells) conducted with triamcinolone acetonide. Animal studies in which corticosteroids have been given to pregnant mice, rats and rabbits have yielded an increased incidence of cleft palate in the offspring.

No carcinogenicity studies have been performed with econazole nitrate. Econazole nitrate was negative in the Ames test and did not induce structural chromosome aberration in vivo. Oral administration of econazole nitrate in rats has been reported to produce prolonged gestation.

There were no carcinogenicity studies available on gentamicin. Gentamicin sulphate was negative for inducing a mutagenic response in the CHO/HGPRT gene mutation assay in the presence or in the absence of metabolic activation. A multigeneration study in the rat showed no adverse effects on reproduction after intramuscular injections of 5 and 20 mg/kg bw/day.

**6 Pharmaceutical Particulars**
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**6.1 List of excipients:**

| Excipients | Reference |
|---|---|
| Ceto-stearyl Alcohol | B.P |
| Cetomacragol-1000 | B.P |
| Liquid paraffin Heavy | I.H |
| Chlorocresol | B.P |
| Methyl paraben sodium | B.P |
| Propyl paraben sodium | B.P |
| Propylene Glycol | B.P |
| Di- Sodium Hydrogen ortho-phosphate anhydrous | I.H |

**6.2 Incompatibilities:**
Not applicable

**6.3 Shelf life:**
36 Months

**6.4 Special precautions for storage:**
Store protected from light and moisture, below 30$^{o}$c. Do not freeze.

**6.5 Nature and contents of container:**
30 gm printed lami tube.

### 6.6 Special precaution for disposal

No special requirements.

## 7. Marketing Authorization Holder


**Name** : Fexona Pharmaceutical Co. Ltd

**Address** : 19, Akinlawon Street, Ijesha Surulere, Lagos -Nigeria

**Phone** : +2348032587764

**Fax** : NA

**E-mail** : fexonapharmltd@yahoo.com