



# GYNAZOLE™·1

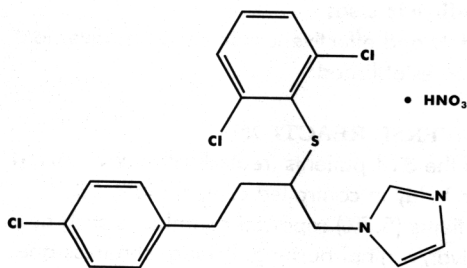
(BUTOCONAZOLE NITRATE) Vaginal Cream, 2%

In one prefilled disposable applicator



## Description

GYNAZOLE™·1 (butoconazole nitrate) vaginal cream, 2% contains butoconazole nitrate 2%, an imidazole derivative with antifungal activity. Its chemical name is (±)-1-[4-(p-chlorophenyl)-2-[[2,6-dichlorophenyl]thio]butyl]imidazole mononitrate, and it has the following chemical structure:



Butoconazole nitrate is a white to off-white crystalline powder with a molecular weight of 474.79. It is sparingly soluble in methanol; slightly soluble in chloroform, methylene chloride, acetone, and ethanol; very slightly soluble in ethyl acetate; and practically insoluble in water. It melts at about 159°C with decomposition.

GYNAZOLE™·1 contains 2% butoconazole nitrate in a cream of edetate disodium, glyceryl monoisostearate, methylparaben, mineral oil, polyglyceryl-3 oleate, propylene glycol, propylparaben, colloidal silicon dioxide, sorbitol solution, purified water, and microcrystalline wax.

## CLINICAL PHARMACOLOGY

Following vaginal administration of butoconazole nitrate vaginal cream, 2% to 3 women, 1.7% (range 1.3 – 2.2%) of the dose was absorbed on average. Peak plasma levels (13.6 – 18.6 ng radioequivalents/mL of plasma) of the drug and its metabolites are attained between 12 and 24 hours after vaginal administration.

## Microbiology

The exact mechanism of the antifungal action of butoconazole nitrate is unknown; however, it is presumed to function as other imidazole derivatives via inhibition of steroid synthesis. Imidazoles generally inhibit the conversion of lanosterol to ergosterol, resulting in a change in

fungal cell membrane lipid composition. This structural change alters cell permeability and, ultimately, results in the osmotic disruption or growth inhibition of the fungal cell.

Butoconazole nitrate is an imidazole derivative that has fungicidal activity *in vitro* and is clinically effective against vaginal infections due to *Candida albicans*.

## INDICATIONS AND USAGE

GYNAZOLE™·1 (butoconazole nitrate) vaginal cream, 2% is indicated for the local treatment of vulvovaginal infections caused by *Candida albicans*. The diagnosis should be confirmed by KOH smears and/or cultures.

**Note:** GYNAZOLE™·1 is safe and effective in non-pregnant women; however, the safety and effectiveness of this product in pregnant women has not been established. (See PRECAUTIONS: Pregnancy.)

## Contraindications

GYNAZOLE™·1 is contraindicated in patients with a history of hypersensitivity to any of the components of the product.

## WARNINGS

This cream contains mineral oil. Mineral oil may weaken latex or rubber products such as condoms or vaginal contraceptive diaphragms; therefore, use of such products within 72 hours following treatment with GYNAZOLE™·1 is not recommended.

Recurrent vaginal yeast infections, especially those that are difficult to eradicate, can be an early sign of infection with the human immunodeficiency virus (HIV) in women who are considered at risk for HIV infection.

## PRECAUTIONS

### General:

If clinical symptoms persist, tests should be repeated to rule out other pathogens, to confirm the original diagnosis, and to rule out other conditions that may predispose a patient to recurrent vaginal fungal infections.



## **Carcinogenesis, Mutagenesis, Impairment of Fertility:**

**Carcinogenesis:** Long term studies in animals have not been performed to evaluate the carcinogenic potential of this drug.

**Mutagenicity:** Butoconazole nitrate was not mutagenic when tested in the Ames bacterial test, yeast, chromosomal aberration assay in CHO cells, CHO/HGPRT point mutation assay, mouse micronucleus, and rat dominant lethal assays.

**Impairment of Fertility:** No impairment of fertility was seen in rabbits or rats administered butoconazole nitrate in oral doses up to 30 mg/kg/day (5 times the human dose based on mg/M<sup>2</sup>) or 100 mg/kg/day (10 times the human dose based on mg/M<sup>2</sup>), respectively.

## **Pregnancy:**

### **Pregnancy Category C.**

In pregnant rats administered 6 mg/kg/day of butoconazole nitrate intravaginally during the period of organogenesis, there was an increase in resorption rate and decrease in litter size; however, no teratogenicity was noted. This dose represents a 130- to 353-fold margin of safety based on serum levels achieved in rats following intravaginal administration compared to the serum levels achieved in humans following intravaginal administration of the recommended therapeutic dose of butoconazole nitrate.

Butoconazole nitrate has no apparent adverse effect when administered orally to pregnant rats throughout organogenesis at dose levels up to 50 mg/kg/day (5 times the human dose based on mg/M<sup>2</sup>). Daily oral doses of 100, 300 or 750 mg/kg/day (10, 30 or 75 times the human dose based on mg/M<sup>2</sup> respectively) resulted in fetal malformations (abdominal wall defects, cleft palate), but maternal stress was also evident at these higher dose levels. There were, however, no adverse effects on litters of rabbits who received butoconazole nitrate orally, even at maternally stressful dose levels (e.g., 150 mg/kg, 24 times the human dose based on mg/M<sup>2</sup>).

Butoconazole nitrate, like other azole anti-fungal agents, causes dystocia in rats when treatment is extended through parturition. However, this effect was not apparent in rabbits treated with as much as 100 mg/kg/day orally (16 times the human dose based on mg/M<sup>2</sup>).

There are, however, no adequate and well-controlled studies in pregnant women. **GYNAZOLE<sup>®</sup>-1** should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

## **Nursing Mothers:**

It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when butoconazole nitrate is administered to a nursing woman.

## **Pediatric Use:**

Safety and effectiveness in children have not been established.

## **ADVERSE REACTIONS**

Of the 314 patients treated with **GYNAZOLE<sup>®</sup>-1** for 1 day in controlled clinical trials, 18 patients (5.7%) reported complaints such as vulvar/vaginal burning, itching, soreness and swelling, pelvic or abdominal pain or cramping, or a combination of two or more of these symptoms. In 3 patients (1%) these complaints were considered treatment-related. Five of the 18 patients reporting adverse events discontinued the study because of them.

## **DOSAGE AND ADMINISTRATION**

The recommended dose of **GYNAZOLE<sup>®</sup>-1** is one applicatorful of cream (approximately 5 grams of the cream) intravaginally. This amount of cream contains approximately 100 mg of butoconazole nitrate.

## **HOW SUPPLIED:**

**GYNAZOLE<sup>®</sup>-1** (butoconazole nitrate) vaginal cream, 2% is available in cartons containing one single-dose prefilled disposable applicator (NDC 64011-001-08).

Store at room temperature 15° to 30° C (59° to 86° F). Avoid heat above 30° C (86° F).

## **Rx Only**

U.S. Patent Nos. 4,078,071 and 4,636,202  
Manufactured for Ther-Rx Corporation  
by KV Pharmaceutical Co.  
St. Louis, MO 63144

June 1998



# GYNAZOLE™•1

(BUTOCONAZOLE NITRATE) Vaginal Cream, 2%

In one prefilled disposable applicator

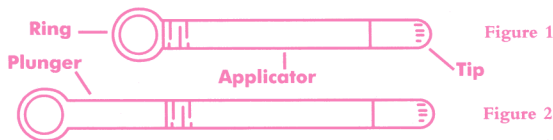


## Using the GYNAZOLE™•1 Prefilled Disposable Applicator

### 3 Easy Steps:

#### Step 1: Preparing the Applicator

Peel back the protective foil and remove the prefilled applicator. Applicator is designed to be used with tip in place. **Do not remove tip; do not use applicator if tip has been removed.**



**Do not warm applicator before using.** While holding the applicator firmly, pull the ring back to *fully* extend the plunger (See Figure 2).

#### Step 2: Inserting the Applicator

Gently insert the applicator into the vagina as far as it will comfortably go (See Figure 3).

Patient Administered



Figure 3A

Professionally Administered

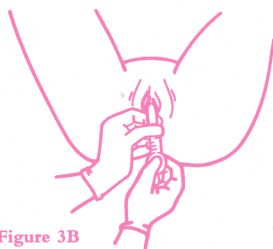


Figure 3B

#### Step 3: Applying the Cream

Push the plunger to release the cream (See Figure 4). Remove the empty applicator from the vagina and throw it away.

Patient Administered



Figure 4A

Professionally Administered



Figure 4B

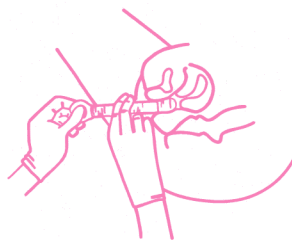


Figure 4C

### Important Instructions:

- One prefilled applicator of GYNAZOLE™•1 should be administered.
- This cream contains mineral oil. Mineral oil may weaken latex or rubber products such as condoms or vaginal contraceptives, diaphragms; therefore, use of such products within 72 hours following treatment with GYNAZOLE™•1 is not recommended.
- There are no adequate and well-controlled studies in pregnant women. GYNAZOLE™•1 should be used during pregnancy only under the supervision of a physician.

**GYNAZOLE™•1**  
(butoconazole nitrate) Vaginal Cream, 2%

NDA 19-881

**FINAL PRINTED LABELING  
CARTON**

80-1001-001-08  
NDC 64011-001-08



**GYNAZOLE™•1**  
(butoconazole nitrate) Vaginal Cream, 2%  
In one prefilled disposable applicator

MANUFACTURED FOR Ther-Rx CORPORATION  
BY KV PHARMACEUTICAL CO.  
St. Louis, MO 63144 USA

 **GYNAZOLE™•1**

**(butoconazole nitrate) Vaginal Cream, 2%**  
In one prefilled disposable applicator

**FORMULA:** Butoconazole nitrate 20 mg/g in a cream of edetate disodium, glycerol monostearate, methylparaben, mineral oil, polyglyceryl-3 oleate, propylene glycol, propylparaben, colloidal silicon dioxide, sorbitol solution, purified water, and microcrystalline wax.  
Store at room temperature (15° to 30°C (59° to 86°F)).  
Avoid heat above 30°C (86°F).

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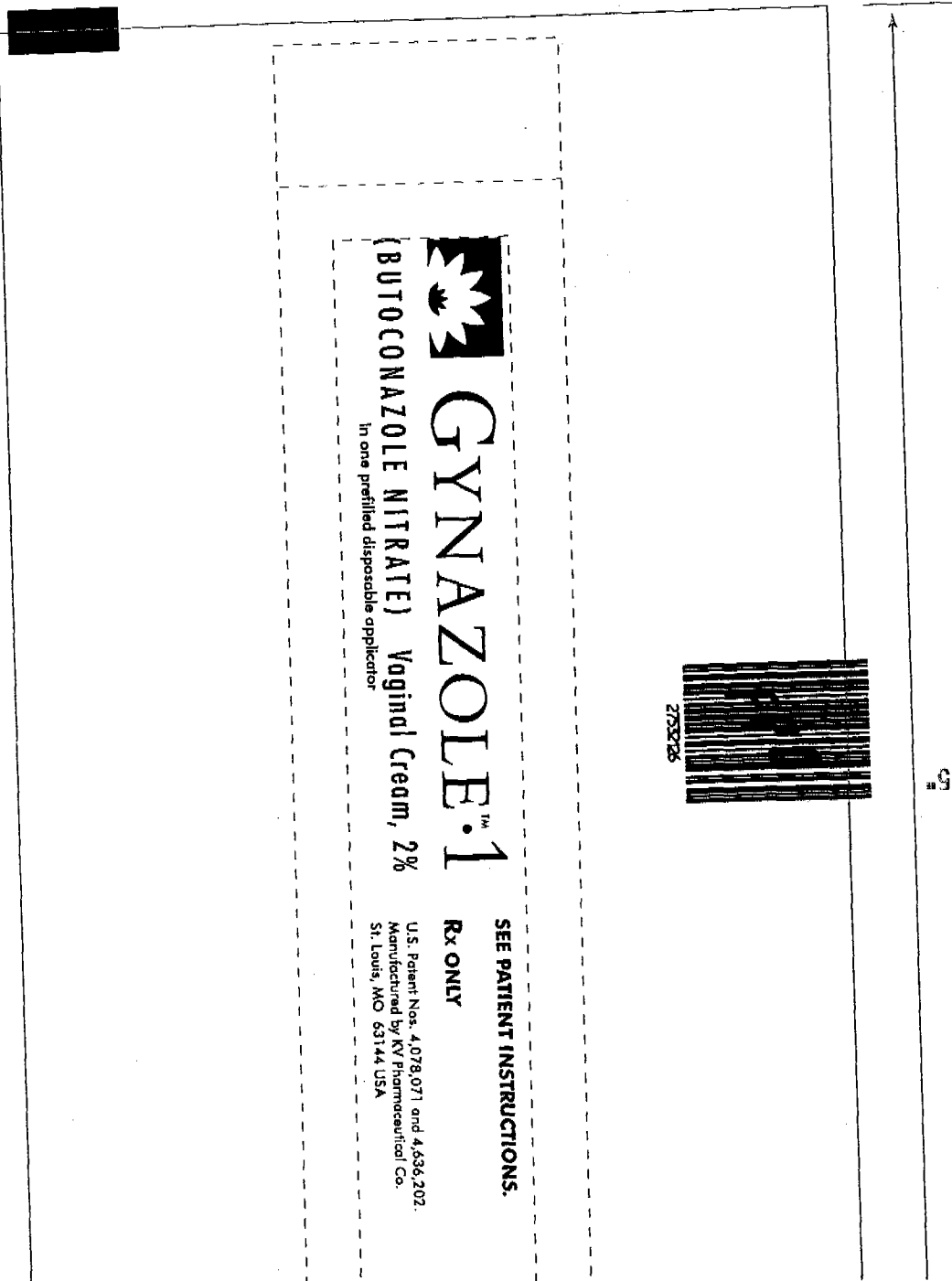
The applicator delivers approximately 5 gm cream,  
containing 100 mg butoconazole nitrate.

Rx Only

**GYNAZOLE™·1**  
(butoconazole nitrate) Vaginal Cream, 2%

NDA 19-881

**FINAL PRINTED LABELING  
FOIL POUCH**



  
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(BUTOCONAZOLE NITRATE) Vaginal Cream, 2%  
In one prefilled disposable applicator

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**SEE PATIENT INSTRUCTIONS.**  
**Rx ONLY**



8.5"

**GYNAZOLE 1**  
**Foil Pouch Dieline**