



# Trimethoprim Sulfa

(for veterinary information only)

- Home Page
- Pharmacy Center
- Acepromazine
- Adequan
- Allopurinol
- Alprazolam
- Amantadine
- Amitriptyline
- Amlodipine Besylate
- Amoxicillin
- Anipryl
- Aspirin
- Azathioprine
- Azithromycin
- Baytril
- Benadryl
- Benazepril
- Bethanechol Chloride
- Budesonide
- Buprenorphine
- Buspiron
- Butorphanol Tartrate
- Calcitriol
- Cefpodoxime Proxetil
- Chlorambucil
- Chloramphenicol
- Cisapride
- Cisplatin
- Clavamox

**BRAND NAMES: TRIBRISSEN, SEPTRA, BACTRIM, COTRIM, SULFATRIM**

AVAILABLE IN  
5 MG TRIMETHOPRIM/25 MG SULFADIAZOLE  
20 MG TRIMETHOPRIM/100 MG SULFADIAZOLE  
80 MG TRIMETHOPRIM/400 MG SULFADIAZOLE  
80 MG TRIMETHOPRIM/400 MG SULFAMETHOXAZOLE  
160 MG TRIMETHOPRIM/800 MG SULFADIAZOLE

## BACKGROUND

Ever since the development of penicillin, there has been a drive to make antibiotics better: be able to penetrate into infected tissue, better efficacy against a more broad spectrum of bacterial organisms, less potential to harm host tissues. The combination of trimethoprim and sulfa antibiotics have a very unique method to combat bacteria: the “sequential blockade” which we will describe below.

An essential nutrient used in the synthesis of many important biochemicals is Folic acid. Folic acid is made from para-amino benzoic acid (PABA) through a step by step process involving two enzymes. A sulfa drug inhibits the first enzyme and trimethoprim inhibits the second enzyme. This double blockade is called the “sequential blockade” and produces death of the bacterium whereas either antibiotic could only have inhibited bacterial reproduction. Mammal enzymes are far less sensitive to these drugs than bacterial enzymes but what really protects the infected host from the blockade is the simple fact that mammals do not have to manufacture their own folic acid; they can eat it in their diet.

## HOW THIS MEDICATION IS USED

There are several special advantages to using trimethoprim sulfa. First, this medication has the advantage of being able to penetrate into exudates and infected tissues that usually stop other antibiotics at their surface. This means trimethoprim sulfa can enter not only abscessed tissue but can penetrate the prostate gland, the blood brain barrier, and eye and treat infections in these locations.

Trimethoprim sulfa is a broad spectrum antibiotic with excellent activity against most gram negative organisms and against *Staphylococci* in the skin. This makes trimethoprim sulfa a good choice for urinary tract infections or as a general antibiotic when the actual identity of the infecting organism is not known. Trimethoprim sulfa is not generally effective against *Pseudomonas aeruginosa*.

Another advantage of trimethoprim sulfa is that it has minimal effect on the normal flora of the gut of the patient. This means less potential for antibiotic induced diarrhea and less resistant bacteria at home.

Trimethoprim sulfa is given twice a day. It is of relatively low cost compared to other antibiotics and makes it a popular choice.

Infections for which trimethoprim sulfa are especially helpful are:

- [Coccidiosis](#)
- [Kennel Cough](#) (*Bordetella bronchiseptica*)

Clindamycin Hydrochloride
Clomipramine
Chlorpheniramine Maleate
Clemastine Fumarate
Colchicine
Cyclophosphamide
Cyclosporine
Cyproheptadine
Deracoxib
Dexamethasone
DES
Diphenoxylate Hydrochloride
Diltiazem
Doxorubicin
Elmiron
Elspar
Enalapril Maleate
Erythromycin
Erythropoietin
Etodolac
Fentanyl Patch
Flagyl
Fluconazole
Florinef
Fluoxetine
Furosemide
Gabapentin
Glipizide
Fulvicin
Glucosamine
Hydrocodone

- [Pneumonia](#)
- Staph infections in the skin and ear
- Prostate infections

## SIDE EFFECTS

Although side effects of trimethoprim sulfa are rare, they do have some potential for serious. It is a good idea to become familiar with what to look for. The following are syndromes that can occur in certain individuals taking trimethoprim sulfa. These syndromes represent “**idiosyncratic**” reactions which mean their occurrence has nothing to do with the amount of drug given but instead represent unpredictable individual’s sensitivity to any dose:

### Joint inflammation

A broad inflammatory syndrome has been observed in some individuals sensitive to trimethoprim sulfa. This includes arthritis, fever, muscle soreness, and even kidney inflammation, and even inflammation of the eye. This syndrome has been formally studied and has been found to occur almost exclusively in individuals with previous uneventful exposure to trimethoprim sulfa and occurs 8-20 days after therapy has started. Doberman pinscher seems to be over-represented and complete recovery can be expected within a week of discontinuing the medication.

### Skin rashes

Drug related skin reactions do not have characteristic appearances; in fact, they can have any appearance. They do, however, begin around the start of treatment with the offending drug and resolve with cessation of administration of the offending drug. Any drug of any kind can produce a rash in the skin; trimethoprim sulfa is somewhat over-represented in cases of skin related drug eruptions.

### Inability to produce adequate tears (“[dry eye](#)”)

Sulfa drugs of any kind are capable of disrupting tear function. Classically, this occurs after long-term therapy (i.e. weeks to months) of use but occasionally certain individuals suffer from dry eye after only one dose of sulfa. In most cases, tear function resumes normally after the drug is discontinued, but occasionally the effect is long term or permanent despite withdrawal of the drug.

### Hepatitis

Liver failure can result when a sensitive individual receives this medication. Nausea, jaundice, and the other complications that occur with liver failure of any origin may result. Discontinuing the medication should lead to recovery. If the liver is biopsied during its state of failure, changes with trimethoprim sulfa reaction are characteristic (ie it should be possible via biopsy to determine if the failing liver was caused by an idiosyncratic trimethoprim sulfa reaction).

### Blood dyscrasias

Blood dyscrasias are abnormal blood cells or proportions of different blood cells. Blood dyscrasias might lead to immune dysfunction, bleeding tendency, or other problems depending on which cells are affected. With trimethoprim sulfa, loss of red blood cells, platelets, and white blood cells have been reported. This syndrome is typically part of the joint inflammation syndrome.

### [Hemolytic Anemia](#)

Immune mediated destruction of red blood cells can be initiated by drug reactions and this has been reported with a number of the more commonly implicated drugs. A patient with a history of immune mediated hemolysis should probably avoid this medication.

### Sulfa bladder stones

Actual bladder stones made of the sulfa antibiotic can actually form. This has been reported in individuals taking trimethoprim sulfa.

Hydroxyzine

taking routine doses of sulfas for routine (as opposed to extended) periods of time but is very

Interferon Alpha

**INTERACTIONS WITH OTHER DRUGS**

Itracozazole

Trimethoprim sulfa will interfere with thyroid function testing. It is not known precisely how trimethoprim sulfa should be discontinued in order to get a valid thyroid reading.

Ivermectin

Keflex

The following drugs may be enhanced by trimethoprim sulfa use: phenylbutazone (an NSAID diuretics, [aspirin](#), and methotrexate (a cancer medication).

Ketoconazole

Antacids may interfere with the efficacy of Trimethoprim sulfa.

Lactulose

Levetiracetam

Trimethoprim sulfa should not be used with [cyclosporine](#) (used for [airborne allergies](#), [periana](#) and immune suppression after organ transplant). This combination increases toxicity of the cy and reduces its beneficial effects.

Lomustine

**CONCERNS AND CAUTIONS**

Loperamide

Loratadine

Trimethoprim-sulfa should not be used by patients with a history of liver disease, blood dyscr immune mediated red blood cell destruction, or known sulfa drug sensitivity.

Maropitant Citrate

Meclizine Hydrochloride

This medication is best not used in pregnancy. Birth defects have been reported after this mec given to pregnant rats.

Meloxicam

**It is important to become familiar with the above described idiosyncratic reacti  
These reactions are uncommon but it is important to be prepared.  
If you think your pet may be having a drug reaction, notify your veterinarian imme**

Methocarbamol

Mirtazapine

Signs of overdose include nausea and diarrhea, confusion and depression, bone marrow disea facial swelling.

Orbax

Omeprazole

Oseltamivir (Tamiflu)

Panacur

Pepcid AC

Phenobarbital

Phenylprop-anolamine

Piroxicam

Ponazuril

Praziquantel

Prednisone

Program

Potassium Bromide

Pyrantel Pamoate

Ranitidine

Reglan

Rimadyl

SAMe

Silymarin

Spinosad

Sucralfate

Sulfa-  
dimethoxine

Sulfasalazine

Terbinafine

Tetracycline

Theophylline

Toceranib  
Phosphate

Tramadol

Trental

**Trimethoprim  
Sulfa**

Tylosin

Ursodiol

Valium

Vibramycin

Vincristine