

# BUTALBITAL AND ACETAMINOPHEN- butalbital and acetaminophen tablet QUAGEN PHARMACEUTICALS LLC

## Butalbital and Acetaminophen Tablets

### HEPATOTOXICITY

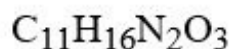
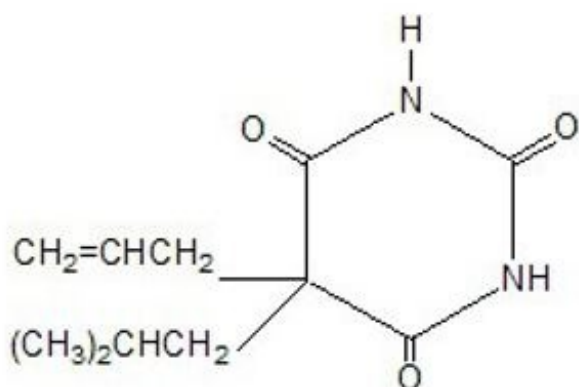
Acetaminophen has been associated with cases of acute liver failure, at times resulting in liver transplant and death. Most of the cases of liver injury are associated with the use of acetaminophen at doses that exceed 4000 milligrams per day, and often involve more than one acetaminophen containing product.

### DESCRIPTION

Each Butalbital and Acetaminophen Tablet for oral administration, contains Butalbital, USP 50 mg, Acetaminophen, USP 300 mg.

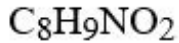
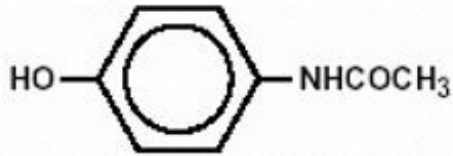
In addition, each Butalbital and Acetaminophen Tablet contains the following inactive ingredients: Colloidal Silicon Dioxide, Croscopovidone, Croscarmellose Sodium, Povidone, Microcrystalline Cellulose, Pregelatinized Starch, D&C Yellow #10 Lake, FD&C Red #40 Lake and Stearic Acid.

Butalbital (5-allyl-5-isobutylbarbituric acid), a slightly bitter, white, odorless, crystalline powder, is a short to intermediate-acting barbiturate. It has the following structural formula:



MOLECULAR WEIGHT = 224.26

Acetaminophen (4'-hydroxyacetanilide), a slightly bitter, white, odorless, crystalline powder, is a non-opiate, non-salicylate analgesic and antipyretic. It has the following structural formula:



MOLECULAR WEIGHT = 151.16

## CLINICAL PHARMACOLOGY

This combination drug product is intended as a treatment for tension headache.

It consists of a fixed combination of butalbital and acetaminophen. The role each component plays in the relief of the complex of symptoms known as tension headache is incompletely understood.

Pharmacokinetics: The behavior of the individual components is described below.

Butalbital: Butalbital is well absorbed from the gastrointestinal tract and is expected to distribute to most tissues in the body. Barbiturates in general may appear in breast milk and readily cross the placental barrier. They are bound to plasma and tissue proteins to a varying degree and binding increases directly as a function of lipid solubility.

Elimination of butalbital is primarily via the kidney (59% to 88% of the dose) as unchanged drug or metabolites. The plasma half-life is about 35 hours. Urinary excretion products include parent drug (about 3.6% of the dose), 5-isobutyl-5-(2,3-dihydroxypropyl) barbituric acid (about 24% of the dose), 5-allyl-5(3-hydroxy-2-methyl-1-propyl) barbituric acid (about 4.8% of the dose), products with the barbituric acid ring hydrolyzed with excretion of urea (about 14% of the dose), as well as unidentified materials. Of the material excreted in the urine, 32% is conjugated.

See **OVERDOSAGE** for toxicity information.

Acetaminophen: Acetaminophen is rapidly absorbed from the gastrointestinal tract and is distributed throughout most body tissues. The plasma half-life is 1.25 to 3 hours, but may be increased by liver damage and following overdose. Elimination of acetaminophen is principally by liver metabolism (conjugation) and subsequent renal excretion of metabolites. Approximately 85% of an oral dose appears in the urine within 24 hours of administration, most as the glucuronide conjugate, with small amounts of other conjugates and unchanged drug.

See **OVERDOSAGE** for toxicity information.

## INDICATIONS AND USAGE

Butalbital and Acetaminophen Tablets are indicated for the relief of the symptom complex of tension (or muscle contraction) headache.

Evidence supporting the efficacy and safety of this combination product in the treatment of multiple recurrent headaches is unavailable. Caution in this regard is required because butalbital is habit-forming and potentially abusable.

## **CONTRAINDICATIONS**

This product is contraindicated under the following conditions:

- Hypersensitivity or intolerance to any component of this product.
- Patients with porphyria.

## **WARNINGS**

Butalbital is habit-forming and potentially abusable. Consequently, the extended use of this product is not recommended.

### **Hepatotoxicity**

Acetaminophen has been associated with cases of acute liver failure, at times resulting in liver transplant and death. Most of the cases of liver injury are associated with the use of acetaminophen at doses that exceed 4000 milligrams per day, and often involve more than one acetaminophen-containing product. The excessive intake of acetaminophen may be intentional to cause self-harm or unintentional as patients attempt to obtain more pain relief or unknowingly take other acetaminophen-containing products.

The risk of acute liver failure is higher in individuals with underlying liver disease and in individuals who ingest alcohol while taking acetaminophen.

Instruct patients to look for acetaminophen or APAP on package labels and not to use more than one product that contains acetaminophen. Instruct patients to seek medical attention immediately upon ingestion of more than 4000 milligrams of acetaminophen per day, even if they feel well.

### **Serious skin reactions**

Rarely, acetaminophen may cause serious skin reactions such as acute generalized exanthematous pustulosis (AGEP), Stevens-Johnson Syndrome (SJS), and toxic epidermal necrolysis (TEN), which can be fatal. Patients should be informed about the signs of serious skin reactions, and use of the drug should be discontinued at the first appearance of skin rash or any other sign of hypersensitivity.

### **Hypersensitivity/anaphylaxis**

There have been post-marketing reports of hypersensitivity and anaphylaxis associated with use of acetaminophen. Clinical signs included swelling of the face, mouth, and throat, respiratory distress, urticaria, rash, pruritus, and vomiting. There were infrequent reports of life-threatening anaphylaxis requiring emergency medical attention. Instruct patients to discontinue Butalbital and Acetaminophen Tablets immediately and seek medical care if they experience these symptoms. Do not prescribe Butalbital and Acetaminophen Tablets for patients with acetaminophen allergy.

## **PRECAUTIONS**

## **General**

Butalbital and Acetaminophen Tablets should be prescribed with caution in certain special-risk patients, such as the elderly or debilitated, and those with severe impairment of renal or hepatic function, or acute abdominal conditions.

## **Information for patients**

This product may impair mental and/or physical abilities required for the performance of potentially hazardous tasks such as driving a car or operating machinery. Such tasks should be avoided while taking this product.

Alcohol and other Central Nervous System (CNS) depressants may produce an additive CNS depression, when taken with this combination product, and should be avoided.

Butalbital may be habit-forming. Patients should take the drug only for as long as it is prescribed, in the amounts prescribed, and no more frequently than prescribed.

- Do not take Butalbital and Acetaminophen Tablets if you are allergic to any of its ingredients.
- If you develop signs of allergy such as a rash or difficulty breathing stop taking Butalbital and Acetaminophen Tablets and contact your healthcare provider immediately.
- Do not take more than 4000 milligrams of acetaminophen per day. Call your doctor if you took more than the recommended dose.

## **Laboratory tests**

In patients with severe hepatic or renal disease, effects of therapy should be monitored with serial liver and/or renal function tests.

## **Drug interactions**

The CNS effects of butalbital may be enhanced by monoamine oxidase (MAO) inhibitors.

Butalbital and acetaminophen may enhance the effects of: other narcotic analgesics, alcohol, general anesthetics, tranquilizers such as chlordiazepoxide, sedative-hypnotics, or other CNS depressants, causing increased CNS depression.

## **Drug/laboratory test interactions**

Acetaminophen may produce false-positive test results for urinary 5-hydroxyindoleacetic acid.

## **Carcinogenesis, mutagenesis, impairment of fertility**

No adequate studies have been conducted in animals to determine whether acetaminophen or butalbital have a potential for carcinogenesis, mutagenesis or impairment of fertility.

## **Pregnancy**

### **Teratogenic Effects**

Animal reproduction studies have not been conducted with this combination product. It is also not known whether butalbital and acetaminophen can cause fetal harm when

administered to a pregnant woman or can affect reproduction capacity. These products should be given to a pregnant woman only when clearly needed.

### **Nonteratogenic effects**

Withdrawal seizures were reported in a two-day-old male infant whose mother had taken a butalbital-containing drug during the last two months of pregnancy. Butalbital was found in the infant's serum. The infant was given phenobarbital 5 mg/kg, which was tapered without further seizure or other withdrawal symptoms.

### **Nursing mothers**

Barbiturates and acetaminophen are excreted in breast milk in small amounts, but the significance of their effects on nursing infants is not known. Because of potential for serious adverse reactions in nursing infants from butalbital and acetaminophen, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

### **Pediatric use**

Safety and effectiveness in children below the age of 12 have not been established.

## **ADVERSE REACTIONS**

Frequently Observed: The most frequently reported adverse reactions are drowsiness, lightheadedness, dizziness, sedation, shortness of breath, nausea, vomiting, abdominal pain, and intoxicated feeling.

Infrequently Observed: All adverse events tabulated below are classified as infrequent.

Central Nervous: headache, shaky feeling, tingling, agitation, fainting, fatigue, heavy eyelids, high energy, hot spells, numbness, sluggishness, seizure. Mental confusion, excitement or depression can also occur due to intolerance, particularly in elderly or debilitated patients, or due to overdosage of butalbital.

Autonomic Nervous: dry mouth, hyperhidrosis.

Gastrointestinal: difficulty swallowing, heartburn, flatulence, constipation.

Cardiovascular: tachycardia.

Musculoskeletal: leg pain, muscle fatigue.

Genitourinary: diuresis.

Miscellaneous: pruritus, fever, earache, nasal congestion, tinnitus, euphoria, allergic reactions.

Several cases of dermatological reactions, including toxic epidermal necrolysis and erythema multiforme, have been reported.

The following adverse drug events may be borne in mind as potential effects of the components of this product. Potential effects of high dosage are listed in the OVERDOSAGE section.

Acetaminophen: allergic reactions, rash, thrombocytopenia, agranulocytosis.

To report **SUSPECTED ADVERSE REACTIONS**, contact Quagen Pharmaceuticals LLC at 1-888-344-9603 or [www.quagenpharma.com](http://www.quagenpharma.com), or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch).

## **DRUG ABUSE AND DEPENDENCE**

Abuse and Dependence: Butalbital: Barbiturates may be habit-forming: Tolerance, psychological dependence, and physical dependence may occur especially following prolonged use of high doses of barbiturates. The average daily dose for the barbiturate addict is usually about 1500 mg. As tolerance to barbiturates develops, the amount needed to maintain the same level of intoxication increases; tolerance to a fatal dosage, however, does not increase more than two-fold. As this occurs, the margin between an intoxication dosage and fatal dosage becomes smaller. The lethal dose of a barbiturate is far less if alcohol is also ingested. Major withdrawal symptoms (convulsions and delirium) may occur within 16 hours and last up to 5 days after abrupt cessation of these drugs. Intensity of withdrawal symptoms gradually declines over a period of approximately 15 days. Treatment of barbiturate dependence consists of cautious and gradual withdrawal of the drug. Barbiturate-dependent patients can be withdrawn by using a number of different withdrawal regimens. One method involves initiating treatment at the patient's regular dosage level and gradually decreasing the daily dosage as tolerated by the patient.

## **OVERDOSAGE**

Following an acute overdosage of butalbital and acetaminophen, toxicity may result from the barbiturate or the acetaminophen.

### **Signs and Symptoms**

Toxicity from **barbiturate** poisoning include drowsiness, confusion, and coma; respiratory depression; hypotension; and hypovolemic shock.

In **acetaminophen** overdosage: dose-dependent, potentially fatal hepatic necrosis is the most serious adverse effect. Renal tubular necroses, hypoglycemic coma and coagulation defects may also occur. Early symptoms following a potentially hepatotoxic overdose may include: nausea, vomiting, diaphoresis and general malaise. Clinical and laboratory evidence of hepatic toxicity may not be apparent until 48 to 72 hours post-ingestion.

### **Treatment**

A single or multiple drug overdose with this combination product is a potentially lethal polydrug overdose, and consultation with a regional poison control center is recommended. Immediate treatment includes support of cardiorespiratory function and measures to reduce drug absorption.

Oxygen, intravenous fluids, vasopressors, and other supportive measures should be employed as indicated. Assisted or controlled ventilation should also be considered.

Gastric decontamination with activated charcoal should be administered just prior to N-acetylcysteine (NAC) to decrease systemic absorption if acetaminophen ingestion is known or suspected to have occurred within a few hours of presentation. Serum acetaminophen levels should be obtained immediately if the patient presents 4 hours or

more after ingestion to assess potential risk of hepatotoxicity; acetaminophen levels drawn less than 4 hours post-ingestion may be misleading. To obtain the best possible outcome, NAC should be administered as soon as possible where impending or evolving liver injury is suspected. Intravenous NAC may be administered when circumstances preclude oral administration.

Vigorous supportive therapy is required in severe intoxication. Procedures to limit the continuing absorption of the drug must be readily performed since the hepatic injury is dose dependent and occurs early in the course of intoxication.

## **DOSAGE AND ADMINISTRATION**

Butalbital and Acetaminophen Tablets 50 mg/300 mg: One or two tablets every four hours. Total daily dosage should not exceed 6 tablets.

Extended and repeated use of these products is not recommended because of the potential for physical dependence.

## **HOW SUPPLIED**

Yellow, round, biconvex unscored tablets debossed "**T above 28**" on one side and plain on the other side, in bottles of 100 (NDC 70752-147-10) and bottles of 500 (NDC 70752-147-14). Each tablet contains butalbital, USP 50 mg and acetaminophen, USP 300 mg.

Store at 20°C to 25°C (68°F to 77°F) [see USP Controlled Room Temperature].

Dispense in a tight container as defined in the USP.

Manufactured by:

**Quagen Pharmaceuticals LLC**

West Caldwell, NJ 07006

52019

Rev.02/24

## **PRINCIPAL DISPLAY PANEL**

**NDC 70752-147-10**

**Butalbital and  
Acetaminophen  
Tablets  
100 Tablets  
Rx only**

**QUAGEN PHARMA**  
NDC 70752-147-10

**Butalbital and Acetaminophen Tablets**

50 mg/300 mg

100 Tablets Rx Only

Each tablet contains:  
Butalbital, USP\* .....50 mg  
**\*Warning:** May be habit forming.  
Acetaminophen, USP.....300 mg

**Usual Adult Dosage:** 1 or 2 tablets every four hours. Total daily dose should not exceed 6 tablets. See package insert for additional prescribing information.

**Store and Dispense:** Store at 20 to 25°C (68 to 77°F). [see USP Controlled Room Temperature].  
Dispense in a tight container as defined in the USP.

**KEEP THIS AND ALL MEDICATION OUT OF THE REACH OF CHILDREN.**

**Manufactured by:**  
Quagen Pharmaceuticals LLC  
West Caldwell, NJ 07006

MADE IN USA 50051 Rev.02/24

GTIN 00370752147101  
3 70752-14710 1

2.0" X 1.0" NON VARNISH AREA

## PRINCIPAL DISPLAY PANEL

NDC 70752-147-14  
**Butalbital and Acetaminophen Tablets**  
500 Tablets  
Rx only

**QUAGEN PHARMA**  
NDC 70752-147-14

**Butalbital and Acetaminophen Tablets**

50 mg/300 mg

500 Tablets Rx Only

Each tablet contains:  
Butalbital, USP\* .....50 mg  
**\*Warning:** May be habit forming.  
Acetaminophen, USP.....300 mg

**Usual Adult Dosage:** 1 or 2 tablets every four hours. Total daily dose should not exceed 6 tablets. See package insert for additional prescribing information.

**Store and Dispense:** Store at 20 to 25°C (68 to 77°F). [see USP Controlled Room Temperature].  
Dispense in a tight container as defined in the USP.

**KEEP THIS AND ALL MEDICATION OUT OF THE REACH OF CHILDREN.**

**Manufactured by:**  
Quagen Pharmaceuticals LLC  
West Caldwell, NJ 07006

MADE IN USA 50052 Rev.02/24

GTIN 00370752147149  
3 70752-14714 9

3.0" X 1.0" NON VARNISH AREA

## BUTALBITAL AND ACETAMINOPHEN

butalbital and acetaminophen tablet

### Product Information

<b>Product Type</b>	HUMAN PRESCRIPTION DRUG	<b>Item Code (Source)</b>	NDC:70752-147
<b>Route of Administration</b>	ORAL	<b>DEA Schedule</b>	CIII



## Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>BUTALBITAL</b> (UNII: KHS0AZ4JVK) (BUTALBITAL - UNII:KHS0AZ4JVK)	BUTALBITAL	50 mg
<b>ACETAMINOPHEN</b> (UNII: 362O9ITL9D) (ACETAMINOPHEN - UNII:362O9ITL9D)	ACETAMINOPHEN	300 mg

## Inactive Ingredients

Ingredient Name	Strength
<b>SILICON DIOXIDE</b> (UNII: ETJ7Z6XBU4)	
<b>CROSPVIDONE</b> (UNII: 2S7830E561)	
<b>CROSCARMELLOSE SODIUM</b> (UNII: M28OL1HH48)	
<b>STARCH, CORN</b> (UNII: O8232NY3SJ)	
<b>MICROCRYSTALLINE CELLULOSE</b> (UNII: OP1R32D61U)	
<b>POVIDONE</b> (UNII: FZ989GH94E)	
<b>STEARIC ACID</b> (UNII: 4ELV7Z65AP)	
<b>D&amp;C YELLOW NO. 10</b> (UNII: 35SW5USQ3G)	
<b>FD&amp;C RED NO. 40</b> (UNII: WZB9127XOA)	

## Product Characteristics

<b>Color</b>	yellow (YELLOWISH)	<b>Score</b>	no score
<b>Shape</b>	ROUND	<b>Size</b>	12mm
<b>Flavor</b>		<b>Imprint Code</b>	T;28
<b>Contains</b>			

## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:70752-147-10	100 in 1 BOTTLE, PLASTIC; Type 0: Not a Combination Product	05/01/2024	
2	NDC:70752-147-14	500 in 1 BOTTLE, PLASTIC; Type 0: Not a Combination Product	05/01/2024	

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
ANDA	ANDA214305	05/01/2024	

**Labeler** - QUAGEN PHARMACEUTICALS LLC (073645339)

**Registrant** - QUAGEN PHARMACEUTICALS LLC (073645339)

## Establishment

Name	Address	ID/FEI	Business Operations
QUAGEN PHARMACEUTICALS LLC		081343942	MANUFACTURE(70752-147) , PACK(70752-147)

## Establishment

Name	Address	ID/FEI	Business Operations
QUAGEN PHARMACEUTICALS LLC		080281331	MANUFACTURE(70752-147) , PACK(70752-147)

Revised: 5/2024

QUAGEN PHARMACEUTICALS LLC