

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use ASACOL HD safely and effectively. See full prescribing information for ASACOL HD.

ASACOL® HD (mesalamine) delayed-release tablets, for oral use
Initial U.S. Approval: 1987

INDICATIONS AND USAGE

Asacol HD is an aminosalicilate indicated for the treatment of moderately active ulcerative colitis in adults. (1)
Limitation of Use: Safety and effectiveness of Asacol HD beyond 6 weeks have not been established (1)

DOSAGE AND ADMINISTRATION

- Recommended dosage is two 800 mg tablets three times daily (4.8 grams/day) with or without food for 6 weeks (2.1)
- Instruct patients to swallow tablets whole without cutting, breaking, or chewing (2.2)
- One Asacol HD 800 mg tablet cannot be substituted for two Asacol® (mesalamine) delayed-release 400 mg tablets (2.2)
- Recommend that renal function be evaluated prior to initiation of Asacol HD (2.3, 5.1)

DOSAGE FORMS AND STRENGTHS

Delayed-release tablets: 800 mg (3)

CONTRAINDICATIONS

- Patients with known hypersensitivity to salicylates or aminosaliclates or to any of the ingredients of Asacol HD tablets (4, 5.3)

WARNINGS AND PRECAUTIONS

- Development of Renal Impairment (for example, minimal change nephropathy, acute and chronic interstitial nephritis renal failure):** Assess renal function at beginning of treatment and periodically during therapy (5.1)
- Mesalamine-induced Acute Intolerance Syndrome:** Has been reported. Observe patients closely for worsening of these symptoms while on treatment (5.2)

- Hypersensitivity Reactions:** Use caution when treating patients who are hypersensitive to sulfasalazine. Mesalamine-induced cardiac hypersensitivity reactions (myocarditis and pericarditis) have been reported (5.3)
- Hepatic Failure:** Has been reported in patients with pre-existing liver disease. Use caution when treating patients with liver disease (5.4)
- Prolonged Gastric Retention in Patients with Upper Gastrointestinal Obstruction:** May lead to a delay in onset of action (5.5)

ADVERSE REACTIONS

The most common adverse reactions (observed in greater than 2 percent of patients) were headache, nausea, nasopharyngitis, abdominal pain, and worsening of ulcerative colitis (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Warner Chilcott at 1-800-521-8813 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch

DRUG INTERACTIONS

- Nephrotoxic Agents including NSAIDs:** Renal reactions have been reported (7.1)
- Azathioprine or 6-mercaptopurine:** Blood disorders have been reported (7.2)

USE IN SPECIFIC POPULATIONS

- Renal Impairment:** Use Asacol HD with caution in patients with a history of renal disease (5.1, 7.1, 8.6)
- Pregnancy:** May cause fetal harm, based on animal data for dibutyl phthalate (inactive ingredient in Asacol HD enteric coating) (8.1)
- Nursing Mothers:** Prescribers should carefully evaluate the risks and benefits when Asacol HD is administered to a nursing mother. (8.3)
- Geriatric Patients:** Monitor blood cell counts in geriatric patients (8.5)

See 17 for PATIENT COUNSELING INFORMATION.

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

Asacol® HD is indicated for the treatment of moderately active ulcerative colitis in adults. Safety and effectiveness of Asacol HD beyond 6 weeks have not been established.

2 DOSAGE AND ADMINISTRATION

2.1 Dosage Information

For the treatment of moderately active ulcerative colitis, the recommended dosage of Asacol HD in adults is two 800 mg tablets to be taken three times daily with or without food, for a total daily dose of 4.8 grams, for a duration of 6 weeks.

2.2 Important Administration Instructions

Swallow Asacol HD tablets whole, do not cut, break or chew the tablets.

One Asacol HD 800 mg tablet has not been shown to be bioequivalent to two Asacol 400 mg tablets [*see Clinical Pharmacology* ([12.3](#))].

2.3 Testing Prior to Asacol HD Administration

It is recommended that all patients have an evaluation of renal function prior to initiation of Asacol HD [*see Warnings and Precautions* ([5.1](#))].

3 DOSAGE FORMS AND STRENGTHS

Asacol HD delayed-release tablets: 800 mg (red-brown, capsule-shaped and imprinted with “WC 800” in black).

4 CONTRAINDICATIONS

Asacol HD is contraindicated in patients with known hypersensitivity to salicylates or aminosaliclates or to any of the ingredients of Asacol HD [*see Warnings and Precautions* ([5.3](#)), *Adverse Reactions* ([6.2](#)), and *Description* ([11](#))].

5 WARNINGS AND PRECAUTIONS

5.1 Renal Impairment

Renal impairment, including minimal change nephropathy, acute and chronic interstitial nephritis, and, rarely, renal failure, has been reported in patients taking products such as Asacol HD that contain or are converted to mesalamine.

It is recommended that all patients have an evaluation of renal function prior to initiation of Asacol HD and periodically while on therapy. Prescribers should carefully evaluate the risks and benefits when using Asacol HD in patients with known renal impairment or history of renal disease [*see Drug Interactions* ([7.1](#)) and *Nonclinical Toxicology* ([13.2](#))].

5.2 Mesalamine-Induced Acute Intolerance Syndrome

Mesalamine has been associated with an acute intolerance syndrome that may be difficult to distinguish from an exacerbation of ulcerative colitis. Exacerbation of the symptoms of colitis has been reported in 2.3 percent of Asacol HD-treated patients in controlled clinical trials. This acute reaction, characterized by cramping, abdominal pain, bloody diarrhea, and occasionally by fever, headache, malaise, pruritus, rash, and conjunctivitis, has been reported after the initiation of Asacol HD tablets as well as other mesalamine products. Symptoms usually abate when Asacol HD tablets are discontinued.

5.3 Hypersensitivity Reactions

Some patients who have experienced a hypersensitivity reaction to sulfasalazine may have a similar reaction to Asacol HD tablets or to other compounds that contain or are converted to mesalamine.

Mesalamine-induced cardiac hypersensitivity reactions (myocarditis and pericarditis) have been reported with Asacol HD and other mesalamine medications. Caution should be taken in prescribing this medicine to patients with conditions predisposing them to the development of myocarditis or pericarditis.

5.4 Hepatic Failure

There have been reports of hepatic failure in patients with pre-existing liver disease who have been administered mesalamine. Caution should be exercised when administering Asacol HD to patients with liver disease.

5.5 Prolonged Gastric Retention in Patients with Upper Gastrointestinal Obstruction

Organic or functional obstruction in the upper gastrointestinal tract may cause prolonged gastric retention of Asacol HD which would delay release of mesalamine in the colon.

6 ADVERSE REACTIONS

The most serious adverse reactions seen in Asacol HD clinical trials or with other products that contain mesalamine or are metabolized to mesalamine were:

- Renal impairment, including renal failure (rare) [see *Warnings and Precautions* ([5.1](#))]
- Acute intolerance syndrome [see *Warnings and Precautions* ([5.2](#))]
- Hypersensitivity reactions [see *Warnings and Precautions* ([5.3](#))]
- Hepatic failure [see *Warnings and Precautions* ([5.4](#))]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Asacol HD has been evaluated in 896 patients with ulcerative colitis in controlled studies. Three six-week, active-controlled studies were conducted comparing Asacol HD 4.8 grams/day with Asacol (mesalamine) 2.4 grams/day in patients with mildly to moderately active ulcerative colitis. In these studies, 727 patients were dosed with the Asacol HD tablet and 732 patients were dosed with the Asacol

400 mg tablet. (One Asacol HD 800 mg tablet cannot be substituted for two Asacol 400 mg tablets [*see Clinical Pharmacology* ([12.3](#))].)

The most common reactions reported in the Asacol HD group were headache (4.7 percent), nausea (2.8 percent), nasopharyngitis (2.5 percent), abdominal pain (2.3 percent), exacerbation of ulcerative colitis (2.3 percent), diarrhea (1.7 percent), and dyspepsia (1.7 percent); [Table 1](#) enumerates adverse reactions that occurred in the three studies. The most common reactions in patients with moderately active ulcerative colitis (602 patients dosed with Asacol HD and 618 patients dosed with the Asacol 400 mg) were the same as all treated patients.

Discontinuations due to adverse reactions occurred in 3.9 percent of patients in the Asacol HD group and in 4.2 percent of patients in the Asacol 400 mg tablet comparator group. The most common cause for discontinuation was gastrointestinal symptoms associated with ulcerative colitis.

Severe adverse reactions occurred in 7.6 percent of patients in the Asacol HD group and in 7.6 percent of patients in the Asacol 400 mg tablet comparator group. Most of these reactions were gastrointestinal symptoms related to ulcerative colitis. Serious adverse reactions occurred in 0.8 percent of patients in the Asacol HD group and in 1.8 percent of patients in the Asacol 400 mg tablet comparator group. The majority involved the gastrointestinal system.

Table 1. Adverse Reactions Occurring in 1 Percent or More of All Treated Patients (Three studies combined)		
Adverse Reaction	Asacol* 2.4 g/day (400 mg Tablet) (N = 732)	Asacol HD* 4.8 g/day (800 mg Tablet) (N = 727)
Headache	4.9 %	4.7 %
Nausea	2.9 %	2.8 %
Nasopharyngitis	1.4 %	2.5 %
Abdominal pain	2.3 %	2.3 %
Ulcerative Colitis	2.7 %	2.3 %
Diarrhea	1.9 %	1.7 %
Dyspepsia	0.8 %	1.7 %
Vomiting	1.6 %	1.4 %
Flatulence	0.7 %	1.2 %
Influenza	1.2 %	1.0 %
Pyrexia	1.2 %	0.7 %
Cough	1.4 %	0.3 %
N = number of patients within specified treatment group Percent = percentage of patients in category and treatment group *One Asacol HD 800 mg tablet cannot be substituted for two Asacol 400 mg tablets [<i>see Clinical Pharmacology</i> (12.3)].		

6.2 Postmarketing Experience

In addition to the adverse reactions reported above in clinical trials involving the Asacol HD tablet, the adverse events listed below have been reported in controlled clinical trials, open label studies, literature reports, or foreign and domestic marketing experience with Asacol 400 mg tablets or other products that contain mesalamine or are metabolized to mesalamine. Because these reactions are reported voluntarily

from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

Body as a Whole: Facial edema, edema, peripheral edema, asthenia, chills, infection, malaise, pain, neck pain, chest pain, back pain, abdominal enlargement, lupus-like syndrome, drug fever (rare).

Cardiovascular: Pericarditis (rare) and myocarditis (rare) [*see Warnings and Precautions (5.3)*], pericardial effusion, vasodilation, migraine.

Gastrointestinal: Dry mouth, stomatitis, oral ulcers, anorexia, increased appetite, eructation, pancreatitis, cholecystitis, gastritis, gastroenteritis, gastrointestinal bleeding, perforated peptic ulcer (rare), constipation, hemorrhoids, rectal hemorrhage, bloody diarrhea, tenesmus, stool abnormality.

Hepatic: There have been rare reports of hepatotoxicity, including jaundice, cholestatic jaundice, hepatitis, and possible hepatocellular damage including liver necrosis and liver failure. Some of these cases were fatal. Asymptomatic elevations of liver enzymes which usually resolve during continued use or with discontinuation of the drug have also been reported. One case of Kawasaki-like syndrome, that included changes in liver enzymes, was also reported [*see Warnings and Precautions (5.4)*].

Hematologic: Agranulocytosis (rare), aplastic anemia (rare), anemia, thrombocytopenia, leukopenia, eosinophilia, lymphadenopathy.

Musculoskeletal: Gout, rheumatoid arthritis, arthritis, arthralgia, joint disorder, myalgia, hypertonia.

Neurological/Psychiatric: Anxiety, depression, somnolence, insomnia, nervousness, confusion, emotional lability, dizziness, vertigo, tremor, paresthesia, hyperesthesia, peripheral neuropathy (rare), Guillain-Barré syndrome (rare), and transverse myelitis (rare).

Respiratory/Pulmonary: Sinusitis, rhinitis, pharyngitis, asthma exacerbation, pleuritis, bronchitis, eosinophilic pneumonia, interstitial pneumonitis.

Skin: Alopecia, psoriasis (rare), pyoderma gangrenosum (rare), erythema nodosum, acne, dry skin, sweating, pruritus, urticaria, rash.

Special Senses: Ear pain, tinnitus, ear congestion, ear disorder, conjunctivitis, eye pain, blurred vision, vision abnormality, taste perversion.

Renal/Urogenital: Renal failure (rare), interstitial nephritis, minimal change nephropathy [*see Warnings and Precautions (5.1)*], dysuria, urinary frequency and urgency, hematuria, epididymitis, decreased libido, dysmenorrhea, menorrhagia.

Laboratory Abnormalities: Elevated AST (SGOT) or ALT (SGPT), elevated alkaline phosphatase, elevated GGT, elevated LDH, elevated bilirubin, elevated serum creatinine and BUN.

7 DRUG INTERACTIONS

No formal drug interaction studies have been performed using Asacol HD with other drugs. However, the following interactions between mesalamine-containing products and other drugs have been reported.

7.1 Nephrotoxic Agents, Including Non-Steroidal Anti-Inflammatory Drugs

The concurrent use of mesalamine with known nephrotoxic agents, including nonsteroidal anti-inflammatory drugs (NSAIDs) may increase the risk of renal reactions [*see Warnings and Precautions (5.1)*].

7.2 Azathioprine or 6-mercaptopurine

The concurrent use of mesalamine with azathioprine or 6-mercaptopurine may increase the risk for blood disorders.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C

Risk summary

There are no adequate well controlled studies of Asacol HD use in pregnant women. Limited published human data on mesalamine show no increase in the overall rate of congenital malformations. Some data show an increased rate of preterm birth, stillbirth, and low birth weight; however, these adverse pregnancy outcomes are also associated with active inflammatory bowel disease. Furthermore, all pregnancies, regardless of drug exposure, have a background rate of 2 to 4 percent for major malformations, and 15 to 20 percent for pregnancy loss. No evidence of fetal harm was observed in animal reproduction studies of mesalamine in rats and rabbits at oral doses approximately 1.6 times (rat) and 3.2 times (rabbit) the recommended human dose. However, dibutyl phthalate (DBP) is an inactive ingredient in Asacol HD's enteric coating, and in animal studies in rats at doses higher than 80 times the human dose, maternal DBP was associated with external and skeletal malformations and adverse effects on the male reproductive system. Asacol HD should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Human data

Mesalamine crosses the placenta. In prospective and retrospective studies of over 600 women exposed to mesalamine during pregnancy, the observed rate of congenital malformations was not increased above the background rate in the general population. Some data show an increased rate of preterm birth, stillbirth, and low birth weight, but it is unclear whether this was due to underlying maternal disease, drug exposure, or both, as active inflammatory bowel disease is also associated with adverse pregnancy outcomes.

Animal data

Reproduction studies with mesalamine were performed during organogenesis in rats and rabbits at oral doses up to 480 mg/kg/day. There was no evidence of impaired fertility or harm to the fetus. These mesalamine doses were about 1.6 times (rat) and 3.2 times (rabbit) the recommended human dose, based on body surface area.

Dibutyl phthalate (DBP) is an inactive ingredient in Asacol HD's enteric coating. The human daily intake of DBP from the maximum recommended dose of Asacol HD tablets is about 48 mg. Published reports in rats show that male rat offspring exposed in utero to DBP (greater than or equal to 100 mg/kg/day, approximately 17 times the human dose based on body surface area), display reproductive system aberrations compatible with disruption of androgenic dependent development. The clinical significance of this finding in rats is unknown. At higher dosages (greater than or equal to 500 mg/kg/day, approximately 84 times the human dose based on body surface area), additional effects, including cryptorchidism, hypospadias, atrophy or agenesis of sex accessory organs, testicular injury, reduced daily sperm production, permanent retention of nipples, and decreased anogenital distance are noted. Female offspring are unaffected. High doses of DBP, administered to pregnant rats was associated with increased incidences of developmental abnormalities, such as cleft palate (greater than or equal to 630 mg/kg/day, about 106 times the human dose, based on body surface area) and skeletal

abnormalities (greater than or equal to 750 mg/kg/day, about 127 times the human dose based on body surface area) in the offspring.

8.3 Nursing Mothers

Mesalamine and its N-acetyl metabolite are present in human milk. In published lactation studies, maternal mesalamine doses from various oral and rectal formulations and products ranged from 500 mg to 3 g daily. The concentration of mesalamine in milk ranged from non-detectable to 0.11 mg/L. The concentration of the N-acetyl-5-aminosalicylic acid metabolite ranged from 5 to 18.1 mg/L. Based on these concentrations, estimated infant daily doses for an exclusively breastfed infant are 0 to 0.017 mg/kg/day of mesalamine and 0.75 to 2.72 mg/kg/day of N-acetyl-5-aminosalicylic acid.

Dibutyl phthalate (DBP), an inactive ingredient in the enteric coating of Asacol HD tablets, and its primary metabolite mono-butyl phthalate (MBP) are excreted into human milk. The clinical significance of this has not been determined.

The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for Asacol HD and any potential adverse effects on the breastfed child from the drug or from the underlying maternal condition. Exercise caution when Asacol HD is administered to a nursing mother.

8.4 Pediatric Use

Safety and effectiveness of Asacol HD in pediatric patients have not been established. See the prescribing information for other approved mesalamine products for the safety and effectiveness of these products in pediatric patients.

8.5 Geriatric Use

Clinical studies of Asacol HD did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently than younger subjects. Other reported clinical experience has not identified differences in response between the elderly and younger patients. In general, the greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy in elderly patients should be considered when prescribing Asacol HD. Reports from uncontrolled clinical studies and postmarketing reporting systems for Asacol (mesalamine) suggested a higher incidence of blood dyscrasias, that is, agranulocytosis, neutropenia, pancytopenia, in patients who were 65 years or older. Caution should be taken to closely monitor blood cell counts during mesalamine therapy.

8.6 Renal Impairment

Mesalamine is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken when prescribing this drug therapy. It is recommended that all patients have an evaluation of renal function prior to initiation of Asacol HD therapy and periodically while on Asacol HD therapy [see *Dosage and Administration* ([2.3](#)), *Warnings and Precautions* ([5.1](#))].

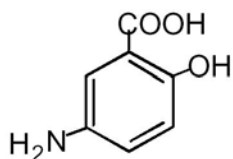
10 OVERDOSAGE

There is no specific antidote for mesalamine overdose and treatment for suspected acute severe toxicity with Asacol HD should be symptomatic and supportive. This may include prevention of further gastrointestinal tract absorption, correction of fluid electrolyte imbalance, and maintenance of adequate renal function. Asacol HD is a pH dependent delayed-release product and this factor should be considered when treating a suspected overdose.

Single oral doses of 5000 mg/kg mesalamine suspension in mice (approximately 4.2 times the recommended human dose of Asacol HD based on body surface area), 4595 mg/kg in rats (approximately 7.8 times the recommended human dose of Asacol HD based on body surface area) and 3000 mg/kg in cynomolgus monkeys (approximately 10 times the recommended human dose of Asacol HD based on body surface area) were lethal.

11 DESCRIPTION

Each Asacol HD delayed-release tablet for oral administration contains 800 mg of mesalamine, an aminosalicylate. Asacol HD delayed-release tablets have an outer protective coat consisting of a combination of acrylic based resins, Eudragit S (methacrylic acid copolymer B, NF) and Eudragit L (methacrylic acid copolymer A, NF). The inner coat consists of an acrylic based resin, Eudragit S, which dissolves at pH 7 or greater, releasing mesalamine in the terminal ileum and beyond for topical anti-inflammatory action in the colon. Mesalamine (also referred to as 5-aminosalicylic acid or 5-ASA) has the chemical name 5-amino-2-hydroxybenzoic acid; its structural formula is:



Molecular Weight: 153.1
Molecular Formula: C₇H₇NO₃

Inactive Ingredients: Each tablet contains colloidal silicon dioxide, dibutyl phthalate, edible black ink, ferric oxide red, ferric oxide yellow, lactose monohydrate, magnesium stearate, methacrylic acid copolymer B (Eudragit S), methacrylic acid copolymer A (Eudragit L), polyethylene glycol, povidone, sodium starch glycolate, and talc.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The mechanism of action of mesalamine is unknown, but appears to be topical rather than systemic. Mucosal production of arachidonic acid (AA) metabolites, both through the cyclooxygenase pathways, that is, prostanoids, and through the lipoxygenase pathways, that is, leukotrienes (LTs) and hydroxyecosatetraenoic acids (HETEs), is increased in patients with chronic inflammatory bowel disease, and it is possible that mesalamine diminishes inflammation by blocking cyclooxygenase and inhibiting prostaglandin (PG) production in the colon.

12.3 Pharmacokinetics

Plasma concentrations of mesalamine (5-aminosalicylic acid; 5-ASA) and its metabolite, N-acetyl-5-aminosalicylic acid (N-Ac-5-ASA) are highly variable following administration of Asacol HD tablets. The time to peak plasma concentration (t_{\max}) is prolonged for mesalamine and N-Ac-5-ASA with the median values from various studies ranging from 10 to 16 hours, reflecting the delayed-release characteristics. Based on cumulative urinary recovery of mesalamine and N-Ac-5-ASA from single dose studies in healthy volunteers, approximately 20 percent of the orally administered mesalamine in Asacol HD tablets is systemically absorbed. The absorbed mesalamine is rapidly acetylated in the gut mucosal wall and by the liver to N-Ac-5-ASA which is excreted mainly by the kidney. The PK parameters following administration of 1600 mg three times daily in healthy subjects are shown in [Table 2](#).

Table 2. Mean (\pm S.D.) PK parameters in healthy subjects following administration of two 800 mg tablets three times daily for 6 days (n = 16)		
	Mesalamine	N-Ac-5-ASA
AUC _{tau} (mcg h/mL)	20 \pm 14	25 \pm 11
C _{max} (mcg/mL)	5.0 \pm 4.0	4.6 \pm 2.5
t _{1/2} (h)	12.6 \pm 10.9*	23.6 \pm 11.2 [#]
* n = 11, [#] n = 6		

A high fat meal does not affect the extent of systemic exposure to mesalamine after single-dose administration of Asacol HD, but mesalamine C_{max} decreases by 47 percent and t_{max} is delayed by 14 hours under fed conditions.

One Asacol HD 800 mg tablet has not been shown to be bioequivalent to two Asacol 400 mg tablets. In a single dose, cross-over pharmacokinetic study in 20 healthy volunteers, the mean mesalamine C_{max} was 36 percent lower and the mean mesalamine AUC was 25 percent lower with administration of one Asacol HD 800 mg tablet relative to two Asacol 400 mg tablets. Because the mechanism of action of mesalamine appears to be topical, the impact of these differences in measures of systemic exposure on clinical efficacy is not known.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Dietary mesalamine was not carcinogenic in rats at doses as high as 480 mg/kg/day, or in mice at 2000 mg/kg/day. These doses are approximately 0.8 and 1.7 times the 4.8 g/day Asacol HD dose (based on body surface area). Mesalamine was not genotoxic in the Ames test, the Chinese hamster ovary cell chromosomal aberration assay, and the mouse micronucleus test. Mesalamine, at oral doses up to 480 mg/kg/day (about 0.8 times the recommended human treatment dose based on body surface area), was found to have no effect on fertility or reproductive performance of male and female rats.

13.2 Animal Toxicology and/or Pharmacology

In animal studies (rats, mice, dogs), the kidney was the principal organ for toxicity. (In the following, comparisons of animal dosing to recommended human dosing are based on body surface area and a 4.8 g/day dose for a 50 kg person.)

Mesalamine causes renal papillary necrosis in rats at single doses of approximately 750 mg/kg to 1000 mg/kg (1.3 to 1.7 times the recommended human dose). Doses of 170 and 360 mg/kg/day (about 0.3 and 0.6 times the recommended human dose) given to rats for six months produced papillary necrosis, papillary edema, tubular degeneration, tubular mineralization, and urothelial hyperplasia.

In mice, oral doses of 4000 mg/kg/day (approximately 3.4 times the recommended human dose) for three months produced tubular nephrosis, multifocal/diffuse tubulo-interstitial inflammation, and multifocal/diffuse papillary necrosis.

In dogs, single doses of 6000 mg (approximately 6.25 times the recommended human dose) of delayed-release mesalamine tablets resulted in renal papillary necrosis but were not fatal. Renal changes have occurred in dogs given chronic administration of mesalamine at doses of 80 mg/kg/day (0.5 times the recommended human dose).

14 CLINICAL STUDIES

14.1 Moderately Active Ulcerative Colitis

The efficacy of Asacol HD at 4.8 g/day was studied in a six-week, randomized, double-blind, active-controlled study in 772 patients with moderately active ulcerative colitis (UC). Moderately active UC was defined as a Physician's Global Assessment (PGA) score of 2; the PGA is a four-point scale (0 to 3) that encompasses the clinical assessments of rectal bleeding, stool frequency, and sigmoidoscopy findings.

Patients were randomized 1:1 to the Asacol HD 4.8 g/day group (two Asacol HD tablets three times a day) or the Asacol (mesalamine) 2.4 g/day group (two Asacol 400 mg tablets three times a day). (One Asacol HD 800 mg tablet has not been shown to be bioequivalent to two Asacol 400 mg tablets [*see Clinical Pharmacology* ([12.3](#))].)

Patients characteristically had a history of previous use of oral 5-ASAs (86 percent), steroids (41 percent), and rectal therapies (49 percent), and demonstrated clinical symptoms of three or more stools over normal per day (87 percent) and obvious blood in the stool most or all of the time (70 percent). The study population was primarily Caucasian (97 percent), had a mean age of 43 years (8 percent aged 65 years or older), and included slightly more males (56 percent) than females (44 percent).

The primary endpoint was treatment success defined as improvement from baseline to Week 6 based on the PGA. Treatment success rates were similar in the two groups: 70 percent in the Asacol HD group and 66 percent in the Asacol group (difference: 5 percent; 95 percent CI: [-1.9 percent, 11.2 percent]).

A second controlled study supported the efficacy of Asacol HD at 4.8 g/day. Treatment success was 72 percent in patients with moderately active UC treated with Asacol HD.

16 HOW SUPPLIED/STORAGE AND HANDLING

Asacol[®] HD (mesalamine) delayed-release tablets are available as red-brown, capsule-shaped tablets containing 800 mg mesalamine and imprinted with "WC 800" in black.

N 0430-0783-27 Bottle of 180 tablets

Store at controlled room temperature 20° to 25° C (68° to 77° F); excursions are permitted 15° to 30° C (59° to 86° F). [See USP Controlled Room Temperature]

17 PATIENT COUNSELING INFORMATION

- Instruct patients to swallow the Asacol HD tablets whole, taking care not to break, cut, or chew the tablets, because the coating is an important part of the delayed-release formulation.
- Inform patients that if they are switching from a previous oral mesalamine therapy to Asacol HD they should discontinue their previous oral mesalamine therapy and follow the dosing instructions for Asacol HD. Inform patients that they should not substitute one Asacol HD tablet with two Asacol 400 mg tablets [see *Dosage and Administration* ([2.2](#)) and *Clinical Pharmacology* ([12.3](#))].
- Inform patients that intact, partially intact, and/or tablet shells have been reported in the stool. Instruct patients to contact their physician if this occurs repeatedly.
- Instruct patients to protect Asacol HD tablets from moisture. Instruct patients to close the container tightly and to leave any desiccant pouches present in the bottle along with the tablets.
- Advise women who are pregnant, breastfeeding, or of childbearing potential that Asacol HD contains dibutyl phthalate, which caused malformations and adverse effects on the male reproductive system in animal studies. Dibutyl phthalate is excreted in human milk.

Manufactured by:
Warner Chilcott Deutschland GmbH
D-64331 Weiterstadt, Germany

Marketed by:
Warner Chilcott (US), LLC
Rockaway, NJ 07866

Under license from Medeva Pharma Suisse AG (registered trademark owner).

U.S. Patent No. 6,893,662.



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