

Omeprazole is excreted in human milk. Because of the potential for serious adverse reactions in nursing infants from omeprazole; 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. In addition, sodium bicarbonate should be used with caution in nursing mothers.

#### Drug Interactions

- Omeprazole can prolong the elimination of diazepam, warfarin and phenytoin, drugs that are metabolized by oxidation in the liver. There have been reports of increased INR and prothrombin time in patients receiving proton pump inhibitors, including omeprazole and warfarin concomitantly. Increase in INR and prothrombin time may lead to abnormal bleeding and even death. Patients should be monitored to determine if it is necessary to adjust the dosage of these drugs when taken concomitantly with omeprazole.

- Because of its profound and long-lasting inhibition of gastric acid secretion, it is theoretically possible that omeprazole may interfere with absorption of drugs where gastric pH is an important determinant of their bioavailability (e.g., ketoconazole, ampicillin esters and iron salts).

- Concomitant administration of omeprazole and atazanavir has been reported to reduce the plasma levels of atazanavir.

- Concomitant administration of omeprazole and tacrolimus may increase the serum levels of tacrolimus.

- Co-administration of omeprazole and clarithromycin have resulted in increase of plasma levels of omeprazole, clarithromycin and 14-hydroxy-clarithromycin.

#### OVERDOSAGE

In doses ranged up to 2400mg, manifestations were variable, but included confusion, drowsiness, blurred vision, tachycardia, nausea, vomiting, diaphoresis, flushing, headache, dry mouth and other adverse reactions similar to those seen in normal clinical experience. No specific antidote for omeprazole overdosage is known. Omeprazole is extensively protein bound and is, therefore, not readily dialyzable. In the event of over dosage, treatment should be symptomatic and supportive. In addition, a sodium bicarbonate overdose may cause hypocalcemia, hypokalemia, hypernatremia and seizures.

#### STORAGE CONDITIONS

- Store at temperatures not exceeding 30°C.
- Protect from sunlight and moisture.
- Keep out of reach of children
- To be sold on prescription of a registered medical practitioner only

#### AVAILABILITY

- Omeprazole + Sodium bicarbonate (**Cisec Plus**) 20mg+1680mg powder for oral suspension is available as **Alu-sachet x 4g** (Box of 10's).
- Omeprazole + Sodium bicarbonate (**Cisec Plus**) 40mg+1680mg powder for oral suspension is available as **Alu-sachet x 4g** (Box of 10's).

## سیسیک + پلس

اومپیزازول + سوڈیم بیانی کاربوئیٹ

ہدایت: دو کو 15-30 منٹ گریڈ پر رکھیں۔ گرمی، روشنی اور نمی سے محفوظ رکھیں۔

تمام دوا میں پتھوں کی پہنچنے سے ڈور رکھیں صرف سفید سترو اور کنکر کے نسخہ پر فروخت کریں۔

نوٹ: محتاطی اور پرہیزی استعمال کے لیے۔



Manufactured by:  
**STANDPHARM PAKISTAN (PVT) LTD**  
20 Km Ferozepur Road Lahore, Pakistan.

0439-00



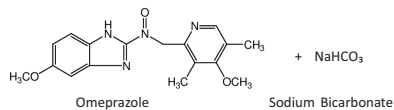
## Cisec Plus

Sachets

### Omeprazole + Sodium Bicarbonate

#### DESCRIPTION

Omeprazole + Sodium bicarbonate (**Cisec Plus**) is a combination of omeprazole, a proton-pump inhibitor and sodium bicarbonate, an antacid. **Cisec Plus** contains immediate-release formulation of omeprazole and sodium bicarbonate. Sodium bicarbonate raises the gastric pH and thus protect omeprazole from acid degradation. The molecular formula of omeprazole is  $C_{17}H_{19}N_2O_5S$  and the molecular formula of sodium bicarbonate is  $NaHCO_3$ . The structural formula of **Cisec Plus** is:



#### FORMULATION

• **Cisec Plus Powder for Oral Suspension**..... 20mg  
Each sachet contains:  
Omeprazole USP..... 20mg  
Sodium bicarbonate USP .....1680mg (as buffer)

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#### CLINICAL PHARMACOLOGY

##### Mechanism of Action

Omeprazole reduces gastric acid secretion through a unique mechanism of action. Omeprazole belongs to a class of anti-secretory compounds. It inhibits secretion of gastric acid by irreversibly blocking the enzyme system of hydrogen/potassium adenosine triphosphatase (H<sup>+</sup>/K<sup>+</sup>ATPase), the proton pump of the gastric parietal cell. This effect is dose-related and leads to inhibition of both basal and stimulated acid secretion irrespective of the stimulus.

#### PHARMACOKINETICS

##### Absorption

Omeprazole is acid-labile and is administered orally on an empty stomach, 1 hour prior to a meal. The absorption of omeprazole is rapid. Absolute bioavailability of omeprazole powder for oral suspension is about 30-40% at doses 20-40mg due in large part to pre-systemic metabolism. When powder for oral suspension is administered 1 hour after a meal, the omeprazole AUC is reduced by approximately 24% relative to administered 1 hour prior to meal.

##### Distribution

Omeprazole is bound to plasma proteins. Protein binding is approximately 95%.

##### Metabolism/ Excretion

Following absorption, omeprazole is almost completely metabolized in the liver, primarily by the cytochrome P450 iso-enzyme CYP2C19 to form hydroxy-omeprazole and to a small extent by CYP3A4 to form omeprazole sulfone. These metabolites are inactive and excreted mostly in the urine and to a lesser extent in the bile. The majority of the dose (77%) was eliminated in the urine. The remainder of the dose was recoverable in the feces. The mean plasma omeprazole half-life is approximately 1 hour (ranging from 0.4 to 3.2 hours) and the total body clearance is 500 600mL/min.

#### Special Population

##### Pediatric

The pharmacokinetics of omeprazole has not been studied in patients < 18 years of age.

##### Geriatric

The elimination rate of omeprazole was somewhat decreased in the elderly,

and bioavailability was increased. Omeprazole was 76% bioavailable when a single 40mg oral dose of omeprazole (buffered solution) was administered to healthy elderly subjects, versus 58% in young subjects given the same dose. The plasma clearance of omeprazole was 250mL/min (about half that of young subjects) and its plasma half-life averaged one hour, similar to that of young healthy subjects.

#### Renal Insufficiency

In patients with chronic renal impairment, whose creatinine clearance ranged between 10 and 62mL/min/1.73m<sup>2</sup>. Because urinary excretion is a primary route of excretion of omeprazole metabolites, their elimination slowed in proportion to the decreased creatinine clearance.

#### Hepatic Insufficiency

In patients with chronic hepatic disease, the bioavailability of omeprazole from a buffered solution increased to approximately 100% and the mean plasma half-life of the drug increased to nearly 3 hours compared to the mean half-life of 1 hour in normal subjects. Plasma clearance averaged 70mL/min, compared to a value of 500-600mL/min in normal subject.

#### INDICATIONS

For the treatment of duodenal and gastric ulcers and gastroesophageal reflux disease (symptomatic GERD, erosive esophagitis and maintenance of healing of erosive esophagitis).

#### DOSAGE & ADMINISTRATION

Omeprazole + Sodium bicarbonate (Cisec Plus) powder for oral suspension as per recommended dosing given in below table.

Omeprazole + Sodium bicarbonate (Cisec Plus) should be taken on an empty stomach at least one hour before a meal.

#### Recommended doses for Adults (18years & older)

Indication	Recommended	Dose Frequency
Short term treatment of acute duodenal ulcer	20mg	Once daily for 4 weeks*
Benign gastric ulcer	40mg	Once daily for 4-8 weeks
Reduction of risk of upper gastrointestinal bleeding in critically ill patients (40mg oral suspension only)	40mg	40mg initially followed by 40mg 6-8 hours later and 40mg daily thereafter for 14 days
<b>Gastroesophageal reflux disease (GERD)</b>		
Symptomatic GERD ( with no esophageal erosion)	20mg	Once daily for upto 4 weeks
Erosive esophagitis	20mg	Once daily for 4-8 weeks
Maintaining of healing of erosive esophagitis	20mg	Once daily

\*Most patients heal within 4 weeks. Some patients may require an additional 4 weeks of therapy

OR

As directed by the physician.

#### DIRECTION FOR RECONSTITUTION:

Empty the sachet contents into a small cup containing 15 - 30ml (1-2 tablespoons) of water to form suspension. Stir well and drink immediately. Refill cup with water and drink. DO NOT USE OTHER LIQUIDS OR FOODS.

#### ADVERSE EFFECTS

The following adverse reactions were reported:

##### Body as a Whole

Allergic reactions, including, rarely anaphylaxis, fever, pain, fatigue, malaise and abdominal swelling.

#### Cardiovascular

Chest pain or angina, tachycardia, bradycardia, palpitation, elevated blood pressure and peripheral edema.

#### Gastrointestinal

Pancreatitis (sometimes fatal), anorexia, irritable colon, flatulence, fecal discoloration, esophageal candidiasis, mucosal atrophy of the tongue, dry mouth and stomatitis.

#### Hepatic

Mild and rarely marked elevations of liver function tests [ALT (SGPT), AST (SGOT), γ-glutamyl transpeptidase, alkaline phosphatase and bilirubin (jaundice)]. In rare instances, overt liver disease has occurred, including hepatocellular, cholestatic, or mixed hepatitis, liver necrosis (sometimes fatal), hepatic failure (sometimes fatal) and hepatic encephalopathy.

#### Metabolic/Nutritional

Hyponatremia, hypoglycemia and weight gain.

#### Musculoskeletal

Muscle cramps, myalgia, muscle weakness, joint pain and leg pain.

#### Nervous System/Psychiatric

Psychic disturbances including depression, agitation, aggression, hallucinations, confusion, insomnia, nervousness, tremors, apathy, somnolence, anxiety, dream abnormalities, vertigo, paresthesia and hemi facial dysesthesia.

#### Respiratory

Epistaxis and pharyngeal pain.

#### Skin

Rash and rarely, cases of severe generalized skin reactions including toxic epidermal necrolysis (TEN; sometimes fatal), Stevens-Johnson syndrome and erythema multiforme (some severe); purpura and/or petechiae (sometimes with rechallenge); skin inflammation, urticaria, angioedema, pruritus, photosensitivity, alopecia, dry skin and hyperhidrosis.

#### Special Senses

Tinnitus and taste perversion.

#### Ocular

Blurred vision, ocular irritation, dry eye syndrome, optic atrophy, anterior ischemic optic neuropathy, optic neuritis and double vision.

#### Urogenital

Interstitial nephritis, urinary tract infection, microscopic pyuria, urinary frequency, elevated serum creatinine, proteinuria, hematuria, glycosuria, testicular pain and gynecocoma.

#### CONTRAINDICATIONS

- Omeprazole is contraindicated in patients with known hypersensitivity to any component of the formulation.
- Sodium bicarbonate is contraindicated in patients with metabolic alkalosis and hypocalcaemia.

#### PRECAUTIONS

##### General

- Symptomatic response to therapy with omeprazole does not preclude the presence of gastric malignancy.

- Omeprazole powder for oral suspension contains sodium in the form of sodium bicarbonate. This should be taken into consideration for patients on a sodium restricted diet.

- Sodium bicarbonate should be used with caution in patients with Bartter's Syndrome hypokalemia, respiratory alkalosis and problems with acid-base balance. Long-term administration of bicarbonate with calcium or milk can cause milk-alkali syndrome.

#### Pregnancy

There are no adequate and well controlled studies on the use of omeprazole in pregnant women. Omeprazole should be used during pregnancy only if the potential benefit to pregnant women justifies the potential risk to the fetus.

#### Nursing Mothers