ZINCOL ®

SUMMARY OF PRODUCT CHARACTERISTICS

NAME OF THE FINISHED PHARMACEUTICAL PRODUCT

Zinc (as Sulphate) 20mg dispersible tablets (ZINCOL ® 20)

1. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains 54.88mg of Zinc sulphate monohydrate equivalent to 20mg of elemental Zinc. For excipients, see 6.1.

2. PHARMACEUTICAL FORM

White round shaped tablet embossed, 'V-Zn' on one side and scored on the reverse side.

3. CLINICAL PARTICULARS

3.1 Therapeutic indications

Zinc (as Sulphate) 20mg dispersible tablet is used orally for acute diarrhoea in children under 5 years of age

3.2 Posology and method of administration

Oral use

Therapy is for acute diarrhoea in children. It is used as a complement to oral rehydration salts solution.

Children 6 months to 5 years

Dissolve one tablet (20mg elemental Zinc) in a teaspoon of clean water and give once daily for ten to fourteen consecutive days at the same time that oral rehydration salts solutions are used. Give at least thirty minutes before food or on an empty stomach.

Infants 2 months to 6 months of age

Dissolve half a tablet (10mg elemental Zinc) in a teaspoon of clean water/breast milk and give once daily for ten to fourteen consecutive days at the same time that oral rehydration salts solutions are used. Give at least thirty minutes before food or on an empty stomach.

3.3 Contraindications

None specified.

3.4 Special warnings and special precautions for use

Do not take more than the recommended dose. High plasma levels of Zinc are associated with copper deficiency and sideroblastic anaemia therefore patients with these conditions should avoid Zinc (as Sulphate) 20mg dispersible tablets as it may worsen the conditions.

3.5 Interaction with other FPPs and other forms of interaction

Drug-Drug: Oral Zinc may decrease absorption of tetracyclines or fluoroquinolones or vice versa hence, Zinc supplements are administered two hours before tetracyclines. Penicillamine and other chelators reduce absorption of Zinc. Calcium salts reduce absorption of Zinc. Thiazide diuretics increase urinary excretion of Zinc.

Drug-Food: Caffeine, dairy products, and bran may decrease absorption of orally administered Zinc. Phytates, which are present in staple foods like cereals, corn, and rice, decrease Zinc absorption in the gastrointestinal tract due to formation of insoluble complexes. Iron supplements inhibit absorption of zinc and therefore Zinc supplements are administered two hours before iron supplements

3.6 Pregnancy and lactation

Use during pregnancy: The safety of zinc sulphate tablets in pregnancy has not been established.

Use during lactation: Zinc crosses the placenta and is present in breast milk. The safety of zinc sulphate tablets in lactation has not been established..

3.7 Effects on ability to drive and use machines

Zinc (as Sulphate) 20mg dispersible tablet has no effect on patient's ability to drive or operate machinery.

3.8 Undesirable effects

The most common adverse reactions to oral administration of Zinc salts are nausea, vomiting, dyspepsia, and abdominal pain. These adverse events usually occur during high dose therapy.

Excessive Zinc intake can lead to development of sideroblastic anemia which is characterized by anemia, leucopoenia, and neutropenia. Sideroblastic anemia develops as a result of Zinc-induced hypocupremia (copper deficiency). These effects are totally reversible following discontinuation of excessive Zinc intake.

The following list of interactions should not be considered exhaustive, but as representative of the classes of medicinal products where caution should be exercised.

Cardiovascular: Hypotension, tachycardia (excessive doses)
Central nervous system: Hypothermia (excessive doses)
Gastrointestinal: Indigestion, nausea, vomiting
Haematologic: Leucopenia, neutropenia
Hepatic: Jaundice (excessive doses)
Ocular: Blurred vision (excessive doses)
Respiratory: Pulmonary edema (excessive doses)
Miscellaneous: Profuse diaphoresis

3.9 Overdose

The tolerable upper intake level (UL) of Zinc (as Sulphate) 20mg dispersible tablet is 34 mg/day. Normal plasma levels for Zinc vary from approximately 88 to 112 mcg per 100 mL. Plasma levels sufficient to produce symptoms of toxic manifestations in humans are not known. Symptoms include nausea, vomiting, dehydration, electrolyte imbalances, dizziness, abdominal pain, lethargy, and incoordination. Calcium supplements may confer a protective effect against zinc toxicity.

4. PHARMACOLOGICAL PROPERTIES

4.1 Pharmacodynamic properties

Pharmacotherapeutic group: nutritional supplement/ biologically essential trace element. *ATC Code*: A12CB01

Mechanism of action: the effect of zinc on intestinal ion transport has not yet been completely established thus the mechanism of action by which Zinc improves diarrhoea is not yet known in its totality. What is known thus far, based on a study done with rat ileum, is that Zinc inhibits basolateral potassium channels thus inhibiting chloride-dependant fluid secretions in the Gastro-Intestinal (GI) tract. Zinc also improves water and electrolyte absorption. Zinc increases clearance of certain GI pathogens by enhancing the immune response and increasing the level of brush-border enzymes. It does this by improving intestinal epithelium regeneration. Another report has shown that Zinc inhibits toxin-induced cholera. Zinc is a co-factor in many biological processes including DNA, RNA, and protein synthesis, and thus plays a critical role in metallo-enzymes, polyribosomes, the cell membrane and cellular function, which is central in immune response to infectious agents.

Clinical efficacy: In one analysis, zinc supplements lower the probability of continuing diarrhoea by approximately 24% in acute diarrhoea and lower the rate of treatment failure or mortality by approximately 42% in persistent diarrhoea. Another analysis shows that Zinc supplementation also reduces the occurrence and duration of severe diarrhoea by 14%, and the risk of persistent diarrhoea by 25 percent. Zinc also seems to reduce hospital admissions due to acute diarrhoea by approximately 23%.

4.2 Pharmacokinetic properties

Absorption: Zinc (as Sulphate) 20mg dispersible tablet is poorly absorbed from the GI tract, (20-30%). Zinc (as Sulphate) 20mg dispersible tablet is also primarily absorbed in the proximal small intestine. Endogenous Zinc is

reabsorbed in the ileum and colon, undergoing enterohepatic circulation.

Distribution: the absorbed Zinc (as Sulphate) 20mg dispersible tablet is bound to protein metallothionein in the intestines. Zinc is widely distributed throughout the body. Peak plasma concentration occurs in approximately two hours. Zinc (as Sulphate) 20mg dispersible tablet is primarily stored in RBCs, WBCs, muscles, bones, skin, kidneys, liver, pancreas, retina, and the prostate. The extent of binding is 60 - 70% to plasma albumin, 30 - 40% to alpha-2 macroglobulins or transferrin, and 1% to amino acids like histidine and cysteine.

Biotransformation: Zinc (as Sulphate) 20mg dispersible tablet is not metabolised.

Elimination: Zinc is excreted mainly in the feces (90%) and only traces are found in the urine

4.3 Preclinical safety data

When used orally and appropriately, Zinc is safe in amounts that do not exceed the tolerable upper intake level (UL). The UL for children is based on age; 4 mg/day for infants birth to 6 months, 5 mg/day for infants 7 to 12 months, 7 mg/day for children 1 to 3 years, 12 mg/day for children 4 to 8 years. Taking amounts greater than the tolerable upper intake level (UL) can cause sideroblastic anemia and copper deficiency.

5. PHARMACEUTICAL PARTICULARS

5.1 List of excipients

Maize starch, microcrystalline cellulose, aspartame, ethyl vanillin, colloidal anhydrous silica and magnesium stearate.

5.2 Incompatibilities

Not applicable.

5.3 Shelf life 2 years.

5.4 Special precautions for storage

Do not store above 30°C. Protect from moisture and light.

5.5 Nature and contents of container

White round shaped tablet embossed, 'V-Zn' on one side and scored on the reverse side.

Pack size: 10 blisters of 10 tablets each.

5.6 Instructions for use and handling and disposal

No special requirements.

6. NAME AND ADDRESS OF MANUFACTURER

VARICHEM

PHARMACEUTICALS (PVT) LTD

194 Gleneagles Road, Willowvale,
Harare, Zimbabwe
P.O Box ST611, Southerton
Harare, Zimbabwe
Tel: +(2634) 620181 – 7
Fax: +(2634) 660424
e-mail: marketing@varipharm.co.zw

6.1 NAME AND ADDRESS OF PRINCIPAL: Same as above.

7. REGISTRATION NUMBER: TBA

8. CATEGORY FOR DISTRIBUTION: Pharmacy Only (P).

9. PHARMACOLOGICAL CLASSIFICATION: Other mineral supplements, **ATC code**: A12CB01

10. DATE OF REVISION: September 2020