ZUGOKOFF COUGH SYRUP

SUMMARY OF PRODUCT CHARACTERISTICS (SmPC)

1. NAME OF MEDICINAL PRODUCT

ZUGOKOFF COUGH SYRUP

2. QUALITATIVE AND QUANTITATIVE COMPOSITION OF THE ACTIVE INGREDIENT

Each 5ml contains:

Diphenhydramine Hydrochloride: 7mg

Sodium Citrate: 28.5mg

For excipients see 6.1

3. PHARMACEUTICAL FORM

Liquid Syrup

Dark brown viscous liquid syrup presented in 100ml pet bottle with customized (ZUGOMED) ROPP screw cap packed in an outer secondary pack, shrink-wrapped and shipped in a tertiary carton.

4. CLINICAL PARTICULARS

4.1 Therapeutic Indications

ZUGOKOFF COUGH SYRUPis suitable for the relief of cough and its congestive symptom and for the treatment of hay fever and other allergic conditions affecting the upper respiratory tract.

4.2 Posology and Method of Administration

Children 2 - 5 years: 5ml every 3 hours..

Children 6 – 12 years: 10ml every 3 hours.

4.3 Contraindications

ZUGOKOFF COUGH SYRUP Syrup is contraindicated in individuals with known hypersensitivity to Diphenhydramine or to any of the excipients.

4.4 Special Warnings and Precautions for Use

This product may cause drowsiness. If affected, individuals should not drive or operate machinery.

Diphenhydramine may enhance the sedative effects of central nervous system depressants including alcohol, sedatives, opioid analgesics, antipsychotics and tranquilizers.

Alcoholic beverages should be avoided while taking this medicine.

Do not use with any other product containing diphenhydramine, including topical formulations used on large areas of skin.

4.5 Interaction with other Medicinal Products and other forms of Interaction

Diphenhydramine: CNS depressants: may enhance the sedative effects of CNS depressants including barbiturates, hypnotics, opioid analgesics, anxiolytic sedatives, antipsychotics and alcohol.

Antimuscarinic drugs: may have an additive muscarinic action with other drugs, such as atropine and some antidepressants

MAOIs: Not be used in patients taking MAOIs or within 14 days of stopping treatment as there is a risk of serotonin syndrome.

4.6 Pregnancy and Lactation

This product should not be used during pregnancy or breastfeeding unless the potential benefit of treatment to the mother outweighs the possible risks to the developing fetus or breastfeeding infant.

Diphenhydramine use in Pregnancy: Diphenhydramine has been in widespread use for many years without any apparent ill consequence. Diphenhydramine is known to cross the placenta and, therefore, should only be used during pregnancy if considered essential by a doctor. Breastfeeding Diphenhydramine is excreted into human breast milk, but levels have not been reported. Although the levels are not thought to be sufficiently high enough after therapeutic doses to affect the infant, the use of diphenhydramine during breast-feeding is not recommended.

4.7 **Effect on ability to Drive and use Machine**

This product may cause drowsiness. If affected, the patient should not drive or operate machinery.

4.8 **Undesirable Effects**

- Flushing
- Tachycardia ·
- Blurred vision ·
- Delirium ·
- Toxic psychosis ·
- Urinary retention ·
- Respiratory depression ·
- Urticaria.

4.9 **Overdose**

Symptoms and signs

Diphenhydramine

Mild to Moderate Symptoms: Drowsiness, anticholinergic syndrome (mydriasis, flushing, fever, dry mouth, urinary retention, decreased bowel sounds), tachycardia, mild hypertension, nausea and vomiting are common after overdose. Agitation, confusion and hallucinations may develop after moderate poisoning.

Severe Symptoms: Effects may include delirium, psychosis, seizures, coma, hypotension, QRS widening, and ventricular dysrhythmias (including torsades de pointes), but are generally only reported in adults after large ingestions. Rhabdomyolysis and renal failure may rarely develop in patients with prolonged agitation, coma or seizure. Death may occur as a result of respiratory failure or circulatory collapse.
In children, CNS excitation, including hallucinations and convulsions may appear; with larger doses, coma or cardiovascular collapse may follow.

Treatment

Treatment of overdose should be symptomatic and supportive. The benefit of gastric decontamination is uncertain. Consider activated charcoal (charcoal dose: 50 g for adults; 1 g/kg for children) only if the patient presents within 1 hour of ingestion of a potentially toxic amount Seizures may be controlled with Diazepam or Thiopental Sodium. The intravenous use of Physostigmine may be efficacious in antagonizing severe anticholinergic symptoms.

5.0 PHARMACOLOGICAL PROPERTIES

5.1 **Pharmacodynamic Properties**

Diphenhydramine possesses antitussive, antihistaminic and anticholinergic properties. Experiments have shown that the antitussive effect (resulting from an action on the

brainstem) is discrete from its antihistaminic effect. The duration of activity of diphenhydramine is between 4 and 8 hour

5.**2 Pharmacokinetic Properties**

Absorption

Diphenhydramine and menthol are well absorbed from the gut following oral administration. Peak serum levels of diphenhydramine following a 50 mg oral dose are reached at between 2 and 2.5 hours.

Distribution

Diphenhydramine is widely distributed throughout the body, including the CNS. Following a 50 mg oral dose of diphenhydramine, the volume of distribution is in the range 3.3 - 6.8 l/kg, and it is some 78% bound to plasma proteins.

Metabolism and Elimination

Diphenhydramine undergoes extensive first pass metabolism. Two successive N demethylations occur, with the resultant amine being oxidised to a carboxylic acid. Values for plasma clearance of a 50 mg oral dose of diphenhydramine lie in the range 6001300 ml/min and the terminal elimination half-life lies in the range 3.4 - 9.3 hours. Little unchanged drug is excreted in the urine. Menthol is hydroxylated in the liver by microsomal enzymes to p-methane-3,8 diol.

The Elderly

Pharmacokinetic studies indicate no major differences in distribution or elimination of Diphenhydramine compared to younger adults.

Renal Dysfunction

The results of a review on the use of Diphenhydramine in renal failure suggest that in moderate to severe renal failure, the dose interval should be extended by a period dependent on Glomerular filtration rate (GFR).

5.3 Preclinical Safety Data

Mutagenicity

The results of a range of tests suggest that diphenhydramine does not have mutagenic potential.

Carcinogenicity

There is insufficient information to determine the carcinogenic potential of diphenhydramine, although such effects have not been associated with these drugs in animal studies.

Teratogenicity

The results of a number of studies suggest that the administration of either diphenhydramine does not produce any statistically significant teratogenic effects in rats, rabbits and mice.

Fertility

There is insufficient information to determine whether diphenhydramine has the potential to impair fertility, although a diminished fertility rate has been observed in mice in one study.

6.0 PHARMACEUTICAL PARTICULARS

6.**1 List of Excipients**

- Glycerin

- Sugar
- Methylparaben
- Propylparaben
- Xanthan Gum
- Raspberry Flavor
- Caramel
- Citric acid

6.**2 Incompatibilities**

None.

6.3 **Shelf Life**

3years (36months)

6.**4 Special Precaution for Storage**

Store in a cool dry place below 30^0C

6.5 Nature and Content of Container and Special equipment for use, Administration or Implantation

Primary pack: 100ml amber colored PET bottle with a customized 'VISKO' ROPP cap

Equipment for administration: Transparent 10ml measuring cup

Secondary pack: customized outer pack

Shipping cartons.

6.6 **Special Precaution for Disposal and other Handling**

None.

7.0 APPLICANT/ MANUFACTURER

Manufactured in Nigeria by

Jehyson Healthcare Limited

Jehyson Crescent

78 Lagos Expressway,

Apomu town Arigbajo

Ewekoro L.G.A, Ogun State

Marketed by

ZUGOMED PHARMACEUTICALS LIMITED