SUMMARY OF PRODUCT CHARACTERISTICS (SmPC)

1. NAME OF MEDICINAL PRODUCT

Tussylin®Adult cough syrup

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 5ml Syrup contains 14mg of Diphenhydramine HCl, 58mg of Sodium Citrate, , Menthol 1.1mg and Ammonium Chloride 135mg

3. PHARMACEUTICAL FORM

A dark,brown syrup with minty taste.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

For severe frequent cough and bronchial congestion

4.2 Posology and method of administration

Children above 12 years: 5-10ml 2-3 times daily.
Adult: 10-15ml 2-3 times daily

Method of Administration

Oral administration only

4.3 Contraindications

Hypersensitivity to diphenhydramine and any component of the preparation.

4.4 Special warnings and precaution for use

This product may cause drowsiness. This product should not be used to sedate a child. Avoid alcohol intake

Patients with the following conditions should not use this product, unless directed by a physician: acute or chronic asthma, a persistent or chronic cough such as occurs with chronic bronchitis or emphysema, or where cough is accompanied by excessive secretions.

Diphenhydramine should be used with caution by individuals with susceptibility to angle-closure or with prostatic hypertrophy, urinary retention. Subjects with moderate to severe renal impairment or hepatic dysfunction should exercise caution when using this product

Drug dependence, tolerance and potential for abuse

For all patients, prolonged use of this product may lead to drug dependence (addiction), even at therapeutic doses. The risks are increased in individuals with current or past history of substance misuse disorder (including alcohol misuse) or mental health disorder (e.g., major depression).

4.5 Interaction with other medicinal product and other forms of interaction.

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

Antimuscarinic drugs: Diphenhydramine may have an additive muscarinic action with other drugs, such as atropine and tricyclic antidepressants. This may result in tachycardia, mouth dryness, gastrointestinal disturbances (e.g. colic), urinary retention and headache.

4.6 Pregnancy and Lactation

Diphenhydramine is known to cross the placenta and therefore, should only be used during pregnancy if considered essential by a doctor. Diphenhydramine has also been detected in 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.

Menthol is excreted in breast milk; when 100 mg of menthol was ingested, there was up to 5.87 ug/L of menthol in breast milk.

This medicine should therefore not be used during pregnancy or lactation unless the potential benefit of treatment to the mother outweighs the possible risk to the developing foetus or nursing infant.

4.7 Effects on ability to drive and use machines

This medicine can impair cognitive function and can affect a patient's ability to drive safely.

4.8 Undesirable Effects

Headache, drowsiness, dizziness, gastro-intestinal disturbances such as nausea, vomiting, diarrhea or constipation may be observed. Others include difficulty in micturition, muscular weakness and tremor, anxiety, restlessness, excitation and mental confusion.

4.9 Overdose

Diphenhydramine

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

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 seizures. Death may occur as a result of respiratory failure or circulatory collapse.

Menthol

Excessive use of menthol may lead to abdominal pain, vomiting, flushed face, dizziness, weakness, tachycardia, stupor, and ataxia.

Treatment

Treatment of overdose should be symptomatic and supportive. Measures to promote rapid gastric emptying (-such as induced emesis or gastric lavage) and, in cases of acute poisoning, the use of activated charcoal, may be useful. The intravenous use of physostigmine may be efficacious in antagonising severe anticholinergic symptoms.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamics Properties

Diphenhydramine

Diphenhydramine possesses antitussive, antihistaminic, 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 hours.

Menthol has mild local anaesthetic and decongestant properties.

Ammonium chloride has an irritant effect on mucous membranes and are considered to have expectorant properties.

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 hrs after an oral dose.

Distribution

Diphenhydramine

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

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 600 - 1300 ml/min, and the terminal elimination half-life lies in the range 3 *Menthol*

Menthol is hydroxylated in the liver by microsomal enzymes to p-methane -3,8 diol. This is then conjugated with glucuronide and excreted both in urine and bile as the glucuronide.

Pharmacokinetics in Renal Impairment

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 the glomerular filtration rate (GFR).

Pharmacokinetics in Hepatic Impairment

After intravenous administration of 0.8 mg/kg diphenhydramine, a prolonged half-life was noted in patients with chronic liver disease which correlated with the severity of the disease. However, the mean plasma clearance and apparent volume of distribution were not significantly affected.

Pharmacokinetics in the Elderly

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

Ammonium Chloride is effectively absorbed from the gastrointestinal tract. The ammonium ion is converted into urea in the liver; the anion thus liberated into the bloodstream and extracellular fluid causes a metabolic acidosis and decreases the pH of the urine, this is followed by a transient diuresis.

5.3 Preclinical safety data

The active ingredients of this medicine are well-known constituents of medicinal products and their safety profiles are well documented. The results of pre-clinical studies do not add anything of relevance for

therapeutic purposes.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Propylene Glycol
Methyl paraben
Propyl paraben

Sodium C .M.C.
Sorbitol solution
Tutti fruitti flavor
Bronopol
caramel colour
cherry flavour
Sodium saccharine

Incompatibilities

6.3 Shelf life

3years

6.4 Special precautions for storage

Store below 30°C .

6.3 Nature and contents of container

Amber glass bottle of 100ml with cap and measuring device

6.6 Special precautions for disposal and other handling

No special requirements.

7. APPLICANT/MANUFACTURER

Afrab Chem Limited
22 Abimbola Street,Isolo Ind.Estate,Isolo-Lagos