DACOF® DRY
Cough Syrup

Qualitative and quantitative composition:
Each 5 ml of Dacof dry Cough Syrup contains:
Diphenhydramine HCl BP……12.5 mg
Dextromethorphan Hydrobromide …6.5 mg
Excipients;
Menthol Crystals
Sodium Methyl Paraben
Sodium Propyl Paraben
Sodium Saccharin
White refined Sugar
Glycerin
Neutral spirit
Bronopol
Citric Acid
Natrosol HHR 250
Lake of indigo carmine Colour
Vanilla Flavour Liquid
Purified Water

Pharmaceutical form:
Brown coloured syrup, free from visible evidence of contamination.

Pharmacology:
ATC Code(s): Diphenhydramine HCl, - R06AA57
DextromethorphanHydrobromide-R05DA09
Dextromethorphan is a non-opioid antitussive drug. It exerts its antitussive activity by acting on the cough centre in the medulla oblongata, raising the threshold for the cough reflex. A single oral dose of 10-20 mg dextromethorphan produces its antitussive action within 1 hour and lasts for at least 4 hours.
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 to 8 hours.

Pharmacokinetic:
Absorption: Diphenhydramine and Dextromethorphan are well absorbed from the gut following oral administration. Peak serum levels of Diphenhydramine following oral dose are reached at between 2 and 2.5 hrs after an oral dose. Due to individual differences in the metabolism of Dextromethorphan, pharmacokinetic values are highly variable. After the administration of Dextromethorphan to healthy volunteers, the Cmax varies from < 1 µg/l to 8 µg/l, occurring within 2.5 hrs of administration.
Distribution:Diphenhydramine is widely distributed throughout the body, including the CNS. Following 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. Dextromethorphan Due to extensive pre-systemic metabolism by the liver, detailed analysis of the distribution of orally administered Dextromethorphan is not possible.
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 after oral dose of diphenhydramine lie in the range 600 - 1300 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.
Dextromethorphan undergoes rapid and extensive First-Pass Metabolism in the liver after oral administration. Genetically controlled O-demethylation is the main determinant of Dextromethorphan pharmacokinetics in human volunteers. It appears that there are distinct phenotypes for this oxidation process resulting in highly variable pharmacokinetics between subjects. Unmetabolised Dextromethorphan, together with the three demethylated Morphinan metabolites; Dextrorphan (also known as 3-hydroxy-N-methylmorphinan), 3-hydroxymorphinan and 3-methoxymorphinan have been identified as conjugated products in the urine. Dextrorphan, which also has antitussive action, is the main metabolite.
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).
There have been no specific studies of dextromethorphan in renal impairment.
Pharmacokinetic studies indicate no major differences in distribution or elimination of diphenhydramine compared to younger adults.

Therapeutic indications
Dacof dry cough syrup is indicated for suppression of dry irritating coughs

Posology and method of administration
Dacof dry cough syrup should be taken four times a day as follows:-
Adults: Two 5 ml spoonfuls.
Children 12 years and above: Two 5 ml spoonfuls.
Children under 12 years: Not recommended.

Contraindications:
Dacof Dry is contra-indicated in individuals with known hypersensitivity to the product or any of its components.
Dacof Dry is contra-indicated in individuals who are taking, or have taken, monoamine oxidase inhibitors (including the antibacterial agent furazolidone) within the preceding two weeks.The concomitant use of Dextromethorphan-containing product and monoamine oxidase inhibitors, can occasionally result in symptoms such as hyperpyrexia,

hallucinations, gross excitation or coma.Dextromethorphan, in common with other centrally acting antitussive agents, should not be given to subjects in, or at risk of developing respiratory failure.

Special warnings and precautions for use:
This product may cause drowsiness: If affected, individuals should not drive or operate machinery .diphenhydramine should not be taken by individuals with narrow-angle glaucoma or symptomatic prostatic hypertrophy. Subjects with moderate to severe renal or hepatic dysfunction should exercise caution when using this product.

Interaction with other medicinal products
The concomitant use of a dextromethorphan-containing product and monoamine oxidase inhibitors can occasionally result in symptoms such as hyperpyrexia, hallucinations, gross excitation or coma.
This product contains Diphenhydramine and therefore may potentiate the effects of alcohol, and other CNS depressants. As Diphenhydramine possess some anticholinergic activity, the effects of anticholinergics (e.g. some psychotropic drugs and atropine) may be potentiated by this product. This may result in tachycardia, mouth dryness, gastrointestinal disturbances (e.g. colic), urinary retention and headache.

Pregnancy and lactation
Both Diphenhydramine and Dextromethorphan have been in widespread use for many years without apparent ill consequence. However, there is insufficient information on the effects of administration of Dextromethorphan during human pregnancy. In addition, it is not known whether Dextromethorphan or its metabolites are excreted in breast milk. Diphenhydramine is known to cross the placenta and has also been detected in breast milk. Dacof dry cough syrup should therefore only be used when the potential benefit of treatment to the mother exceeds any possible hazards to the developing fetus or suckling infant.

Effects on ability to drive and use machines
This product may cause drowsiness; if affected, individuals should not drive or operate machinery.

Undesirable effects
Diphenhydramine may cause: drowsiness; dizziness; gastrointestinal disturbance; dry mouth, nose and throat; difficulty in urination or blurred vision.
Dextromethorphan: dizziness, nausea, vomiting, or gastro-intestinal disturbance may occur.

Overdose
The effects of acute toxicity of Dacof dry syrup may include drowsiness, hyperpyrexia, anticholinergic effects, lethargy, nystagmus, ataxia, respiratory depression, nausea, vomiting and hyperactivity. With higher doses, and particularly in children, symptoms of CNS excitation including hallucinations and convulsions may appear; with massive doses, coma or cardiovascular collapse may follow. Treatment of overdose should be symptomatic and supportive. Measures to promote rapid gastric emptying (with syrup of ipecac-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 antagonizing severe anticholinergic symptoms. Naloxone has been used successfully as a specific antagonist to dextromethorphan toxicity in children. Convulsions may be controlled with diazepam and thiopental sodium.

Shelf life
36 months from the date of manufacture.

Special precautions for storage
Keep all medicines out of reach of children
Store in a dry place, below 30°C, protected from light

Nature and contents of container
Packaging and pack size(s):
Primary packaging material: Amber coloured bottle tightly closed with Aluminium cap.
Secondary packaging material: Printed label, unit box and measuring cap

Marketing authorisation holder
Dawa Limited,
Plot No.7879/8, Baba Dogo Road, Ruaraka.
P.O Box 16633-00620,
Nairobi- Kenya.

Marketing authorization number(s)
Kenya, license No.H2009/18571/621.
Malawi, license No.PMPB/PL12/63.
Uganda, license No.7903/25/13.
Congo, license No. 1253/10/5486/DGM/2007.

Manufactured by:

DAWA	DAWA Limited, Plot No. 7879/8, Baba Dogo Road, Ruaraka P. O. Box 16633 – 00620, Nairobi, Kenya.

Date of revision of the text
June 2015