Summary of Product Characteristics
JEKOF SYRUP
(Ambroxol hydrochloride 15 mg and salbutamol 1 mg per 5 mL, syrup)

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1. Name of the medicinal product

JEKOF SYRUP (Ambroxol Hydrochloride and Salbutamol Sulphate Syrup)

2. Qualitative and quantitative composition

Each 5 mL contains ambroxol hydrochloride 15 mg and salbutamol sulphate equivalent to salbutamol 1 mg.

Excipients with known effect:

Each 5 mL contains propylene glycol 31.0 mg, aspartame 1.80 mg (a source of phenylalanine), sorbitol, sodium benzoate (E211) and the azo colouring agent tartrazine (E102).

For the full list of excipients, see section 6.1.

3. Pharmaceutical form

Syrup.

A green-coloured, flavoured syrup.

4. Clinical particulars

4.1 Therapeutic indications

JEKOF SYRUP is indicated in adults, adolescents and children aged 2 to 12 years for the symptomatic relief of productive cough associated with respiratory disorders in which bronchospasm and viscous mucus are present, such as acute bronchitis, acute exacerbations of chronic bronchitis and asthmatic bronchitis.

4.2 Posology and method of administration

Posology

Children 2 to 6 years: 2.5 mL three times a day. Children 6 to 12 years: 5 mL two to three times a day. Children 12 years and above and adults: 5 mL three times a day, or 10 mL twice a day, or as directed by the physician.

Method of administration

For oral use.

4.3 Contraindications

- Hypersensitivity to ambroxol, salbutamol or to any of the excipients listed in section 6.1.
- Tachyarrhythmias.

4.4 Special warnings and precautions for use

Salbutamol-related precautions

Salbutamol should be used with caution in patients with cardiovascular disease (in particular coronary insufficiency, cardiac arrhythmias and severe hypertension), hyperthyroidism, diabetes

mellitus, and in patients susceptible to QT-interval prolongation. Potentially serious hypokalaemia may result from beta-2 agonist therapy and may be potentiated by concomitant treatment with xanthine derivatives, corticosteroids and diuretics; serum potassium should be monitored in susceptible patients. As with other beta-2 agonists, paradoxical bronchospasm may occur, requiring immediate discontinuation and alternative therapy.

Ambroxol-related precautions

There have been reports of severe cutaneous adverse reactions, including erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis and acute generalised exanthematous pustulosis, associated with ambroxol; if symptoms or signs of a progressive skin rash occur, treatment should be stopped. Ambroxol should be used with caution in patients with gastric ulceration and in those with severely impaired renal or hepatic function.

Excipients

This medicine contains propylene glycol. It contains aspartame, a source of phenylalanine, which may be harmful for people with phenylketonuria. It contains sorbitol; patients with rare hereditary problems of fructose intolerance should not take this medicine, and sorbitol may have a mild laxative effect. It contains the azo colouring agent tartrazine (E102), which may cause allergic reactions, and sodium benzoate (E211).

4.5 Interaction with other medicinal products and other forms of interaction

The risk of hypokalaemia due to salbutamol may be increased by concomitant xanthine derivatives, corticosteroids and diuretics. The cardiovascular effects of salbutamol may be potentiated by monoamine oxidase inhibitors, tricyclic antidepressants and other sympathomimetics, and salbutamol may markedly increase heart rate and blood pressure when used with atomoxetine. Salbutamol and non-selective beta-blockers, such as propranolol, should not usually be prescribed together. Hypokalaemia induced by salbutamol may increase the risk of digitalis toxicity.

4.6 Fertility, pregnancy and lactation

Pregnancy

The administration of medicines during pregnancy should be considered only if the expected benefit to the mother outweighs any possible risk to the foetus; JEKOF SYRUP should be used during pregnancy only if clearly necessary.

Breast-feeding

Salbutamol is probably, and ambroxol may be, excreted in breast milk; use should be avoided in lactating mothers unless the expected benefit outweighs any possible risk to the infant.

4.7 Effects on ability to drive and use machines

JEKOF SYRUP is not expected to influence the ability to drive or use machines.

4.8 Undesirable effects

The adverse reactions are listed below by System Organ Class and frequency, defined as: common (≥1/100 to <1/10), uncommon (≥1/1,000 to <1/100), rare (≥1/10,000 to <1/1,000), very rare (<1/10,000) and not known (cannot be estimated from the available data). Reactions attributed to ambroxol are tagged (A) and those to salbutamol (S).

System Organ Class	Frequency	Adverse reaction
Immune system disorders	Rare	Hypersensitivity reactions, including anaphylaxis (A/S)
Metabolism and nutrition disorders	Uncommon	Hypokalaemia (S, potentially severe at high doses)
Psychiatric disorders	Uncommon	Nervousness, restlessness (S)
Nervous system disorders	Common	Fine tremor, headache (S)
	Uncommon	Dysgeusia (A)
Cardiac disorders	Common	Tachycardia, palpitations (S)

System Organ Class	Frequency	Adverse reaction
	Uncommon	Cardiac arrhythmias (S)
Respiratory, thoracic and mediastinal disorders	Not known	Paradoxical bronchospasm (S)
Gastrointestinal disorders	Uncommon	Nausea, vomiting, dyspepsia, diarrhoea, dry mouth or throat (A/S)
Skin and subcutaneous tissue disorders	Uncommon	Rash, urticaria, pruritus (A)
	Very rare	Severe cutaneous reactions including Stevens-Johnson syndrome, toxic epidermal necrolysis and acute generalised exanthematous pustulosis (A)
Musculoskeletal and connective tissue disorders	Common	Muscle cramps (S)

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to the National Regulatory Authority.

4.9 Overdose

Overdose is likely to be dominated by the effects of salbutamol and may lead to tachycardia, tremor, central nervous system stimulation, hypokalaemia, hyperglycaemia and metabolic acidosis. Serum potassium should be monitored. Treatment is symptomatic and supportive; a cardioselective beta-blocker may be considered in patients with significant cardiac symptoms, with caution in patients with a history of bronchospasm.

5. Pharmacological properties

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Cough and cold preparations; mucolytics (ambroxol, ATC code R05CB06) in combination with a selective beta-2 adrenoceptor agonist (salbutamol, ATC code R03AC02).

Ambroxol is a mucolytic agent that promotes the breakdown of acid mucopolysaccharide fibres, making sputum thinner and less viscous and therefore more easily expectorated; it also stimulates surfactant production. Salbutamol is a selective beta-2 adrenoceptor agonist that relaxes bronchial smooth muscle, producing bronchodilation; it also inhibits the release of bronchoconstricting mediators from mast cells and enhances mucociliary clearance. The combination is intended to provide both bronchodilation and mucolysis in productive cough associated with bronchospasm.

5.2 Pharmacokinetic properties

Ambroxol is well absorbed after oral administration, with an onset of action of about 30 minutes; it is metabolised in the liver and excreted mainly in the urine. Salbutamol is well absorbed orally, undergoes first-pass metabolism in the gut wall and liver to the inactive sulphate conjugate, and is excreted mainly in the urine as unchanged drug and conjugate; the plasma half-life is approximately 4 to 6 hours.

5.3 Preclinical safety data

Ambroxol and salbutamol are well-established active substances with characterised safety profiles; non-clinical data reveal no special hazard for humans at therapeutic exposures beyond that reflected in other sections of this Summary of Product Characteristics.

6. Pharmaceutical particulars

6.1 List of excipients

- Sorbitol solution (70%)
- Liquid glucose
- Sodium benzoate (E211)
- Citric acid
- Sodium citrate
- Propylene glycol
- Aspartame
- Disodium edetate
- Tartrazine (E102)
- Brilliant blue FCF (E133)
- Menthol
- Flavour
- Purified water

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

24 months.

6.4 Special precautions for storage

Store in a cool, dry place. Protect from light. Keep out of the reach and sight of children.

6.5 Nature and contents of container

100 mL of syrup in a bottle, presented in a carton together with a measuring device and the package insert.

6.6 Special precautions for disposal and other handling

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

7. Marketing Authorisation Holder and Manufacturer

Marketing Authorisation Holder

National Pharmacy Ltd, Colchester Park, P.O. Box 17843-00500, Nairobi, Kenya.

Manufacturer

Brussels Laboratories Pvt. Ltd., 33 Changodar Industrial Estate, Sarkhej-Bavla Road, Changodar, Ahmedabad-382210, India.

8. Marketing Authorisation Number

H2016/CTD2056/169

9. Date of first authorisation / renewal of the authorisation

10. Date of revision of the text