SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

FARCOLIN Respirator Solution.

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 20 ml contains 0.121 g Salbutamol Sulphate.

For a full list of excipients see Section 6.1.

3. PHARMACEUTICAL FORM

Solution for nebulization.

Clear, Colorless to slightly yellow solution.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

- As a bronchodilator for the management of acute cases of bronchial asthma.

- For treatment of severs reversible bronchospasm associated with bronchitis and emphysema.

- For management of status asthmaticus.

4.2 Posology and method of administration

FARCOLIN Respirator Solution is inhaled from any efficient nebulizing device to achieve rapidly effective bronchodilatation.

1 - Intermittent administration:

Adults:

A - Dilute solution: FARCOLIN Respirator Solution 0.5 - 1.0 ml (2.5 - 5.0 mg of Salbutamol) should be diluted to a final volume of 2.0 to 4.0 ml with normal saline or water for injection.

The resulting solution is inhaled from a suitably driven nebulizer until aerosol generation ceases. This will take about 10 minutes, on using a correctly matched nebulizer and driving source.

B - Undiluted solution: FARCOLIN Respirator Solution may be used undiluted for intermittent administration. In this respect, 2 ml of FARCOLIN Respirator Solution (10 mg of Salbutamol) is placed in the nebulizer and inhaled by the patient until bronchodilation is achieved.

In severe cases, nebulization of the undiluted solution should be continued until aerosol generation ceases.

Children:

The same mode of intermittent administration is also applicable to children. The usual dosage for children up to the age of 12 years is 0.5 ml of FARCOLIN Respirator Solution (2.5 mg of Salbutamol) diluted to 2 to 4 ml with normal saline or water for injection. Severe cases may require the use of higher doses of Salbutamol (up to 5 mg).

N.B.: The intermittent treatment may be repeated up to four times daily, or as prescribed by the physician.

2 - Continuous administration:

For patients requiring assisted ventilation, administration of a diluted solution of Salbutamol is continued until adequate bronchodilatation is achieved. One ml of FARCOLIN Respirator Solution is diluted to 100 ml with normal saline giving a concentration of 50 mcg / ml of Salbutamol.

The diluted solution is administered through a nebulizer coupled to an intermittent positive pressure ventilator, employing oxygen enriched air. Bronchodilatation occurs almost immediately and a maximal effect is achieved within 20 minutes from the start of therapy.

Notes:

FARCOLIN Respirator Solution should not be used after a period of three months of opening the bottle. Fresh dilutions should be prepared for each administration and any solution remaining in the nebulizer after the relief of bronchospasm should be discarded. To avoid contamination, the nebulizer should be thoroughly cleaned according to the manufacturers instructions.

4.3 Contraindications

Hypersensitivity to the active substance or any of the excipients.

Non-IV formulations of salbutamol must not be used to arrest uncomplicated premature labour or threatened abortion.

4.4 Special warnings and precautions for use

FARCOLIN Respirator Solution must only be used by inhalation, to be breathed in through the mouth, and must not be injected or swallowed.

Bronchodilators should not be the only or main treatment in patients with severe or unstable asthma. Severe asthma requires regular medical assessment, including lung-function testing, as patients are at risk of severe attacks and even death. Physicians should consider using the maximum recommended dose of inhaled corticosteroid and/or oral corticosteroid therapy in these patients.

Patients receiving treatment at home should be warned to seek medical advice if treatment with FARCOLIN Respirator Solution becomes less effective. As there may be adverse effects associated with excessive dosing the dosage or frequency of administration should only be increased on medical advice.

Patients being treated with FARCOLIN Respirator Solution may also be receiving other dosage forms of short-acting inhaled bronchodilators to relieve symptoms.

Increasing use of bronchodilators, in particular short-acting inhaled β2-agonists, to relieve symptoms, indicates deterioration of asthma control. The patient should be instructed to seek medical advice if short-acting relief bronchodilator treatment becomes less effective, or more inhalations than usual are required. In this situation the patient should be assessed and consideration given to the need for

increased anti-inflammatory therapy (e.g. higher doses of inhaled corticosteroid or a course of oral corticosteroid).

Severe exacerbations of asthma must be treated in the normal way.

Cardiovascular effects may be seen with sympathomimetic drugs, including Salbutamol. There is some evidence from post-marketing data and published literature of rare occurrences of myocardial ischaemia associated with Salbutamol.

Patients with underlying severe heart disease (e.g. ischaemic heart disease, arrhythmia or severe heart failure) who are receiving Salbutamol should be warned to seek medical advice if they experience chest pain or other symptoms of worsening heart disease. Attention should be paid to assessment of symptoms such as dyspnoea and chest pain, as they may be of either respiratory or cardiac origin.

FARCOLIN Respirator Solution should be used with care in patients known to have received large doses of other sympathomimetic drugs.

Potentially serious hypokalaemia may result from β2-agonist therapy, mainly from parenteral and nebulised administration. Particular caution is advised in acute severe asthma as this effect may be potentiated by hypoxia and by concomitant treatment with xanthine derivatives, steroids and diuretics. Serum potassium levels should be monitored in such situations.

In common with other β-adrenoceptor agonists, Salbutamol can induce reversible metabolic changes such as increased blood glucose levels. Diabetic patients may be unable to compensate for the increase in blood glucose and the development of ketoacidosis has been reported. Concurrent administration of corticosteroids can exaggerate this effect.

Lactic acidosis has been reported in association with high therapeutic doses of intravenous and nebulised short-acting beta-agonist therapy, mainly in patients being treated for an acute asthma exacerbation. Increase in lactate levels may lead to dyspnoea and compensatory hyperventilation, which could be misinterpreted as a sign of asthma treatment failure and lead to inappropriate intensification of short-acting beta-agonist treatment. It is therefore recommended that patients are monitored for the development of elevated serum lactate and consequent metabolic acidosis in this setting.

A small number of cases of acute angle-closure glaucoma have been reported in patients treated with a combination of nebulized salbutamol and ipratropium bromide. A combination of nebulised Salbutamol with nebulized anticholinergics should therefore be used cautiously. Patients should receive adequate instruction in correct administration and be warned not to let the solution or mist enters the eye.

Salbutamol should be administered cautiously to patients suffering from thyrotoxicosis.

FARCOLIN Respirator Solution contains Benzalkonium chloride which may cause bronchospasm.

As with other inhalation therapy, paradoxical bronchospasm may occur with an immediate increase in wheezing after dosing. This should be treated immediately with an alternative presentation or a different fast-acting inhaled bronchodilator. FARCOLIN Respirator Solution should be discontinued immediately, the patient assessed, and if necessary a different fast-acting bronchodilator instituted for on-going use.

4.5 Interaction with other medicinal products and other forms of interaction

Should not normally be prescribed with non-selective β-blocking drugs such as propranolol.

4.6 Pregnancy and lactation

Pregnancy

Administration of drugs during pregnancy should only be considered if the expected benefit to the mother is greater than any possible risk to the foetus. As with the majority of drugs, there is little published evidence of the safety of Salbutamol in the early stages of human pregnancy, but in animal studies there was evidence of some harmful effects on the foetus at very high dose levels.

Breast-feeding

As Salbutamol is probably secreted in breast milk, its use in nursing mothers requires careful consideration. It is not known whether Salbutamol has a harmful effect on the neonate, and so its use should be restricted to situations where it is felt that the expected benefit to the mother is likely to outweigh any potential risk to the neonate.

Fertility

There is no information on the effects of Salbutamol on human fertility. There were no adverse effects on fertility in animals.

4.7 Effects on ability to drive and use machines

None Known.

4.8 Undesirable effects

Adverse events are listed below by system organ class and frequency. Frequencies are defined as: very common (≥1/10), common (≥1/100 and <1/10), uncommon (≥1/1000 and <1/100), rare (≥1/10,000 and <1/1000) and very rare (<1/10,000). Very common and common events were generally determined from clinical trial data. Rare, very rare and unknown events were generally determined from spontaneous data.

Immune system disorders

Very rare: Hypersensitivity reactions including angioedema, urticaria, bronchospasm, hypotension and collapse

Metabolism and nutrition disorders

Rare: Hypokalaemia.

Potentially serious hypokalaemia may result from beta2 agonist therapy.

Unknown: Lactic acidosis

Nervous system disorders

Common: Tremor, headache.

Very rare: Hyperactivity.

Cardiac disorders

Common: Tachycardia.

Uncommon: Palpitations

Very rare: Cardiac arrhythmias including atrial fibrillation, supraventricular tachycardia and extrasystoles

Unknown: Myocardial ischaemia

Vascular disorders

Rare: Peripheral vasodilatation.

Respiratory, thoracic and mediastinal disorders

Very rare: Paradoxical bronchospasm.

Gastrointestinal disorders

Uncommon: Mouth and throat irritation.

Musculoskeletal and connective tissue disorders

Uncommon: Muscle cramps.

4.9 Overdose

The most common signs and symptoms of overdose with Salbutamol are transient beta agonist pharmacologically mediated events, including tachycardia, tremor, hyperactivity and metabolic effects including hypokalaemia and lactic acidosis.

Hypokalaemia may occur following overdose with Salbutamol. Serum potassium levels should be monitored. Lactic acidosis has been reported in association with high therapeutic doses as well as overdoses of short-acting beta-agonist therapy, therefore monitoring for elevated serum lactate and consequent metabolic acidosis (particularly if there is persistence or worsening of tachypnea despite resolution of other signs of bronchospasm such as wheezing) may be indicated in the setting of overdose.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Andrenergics, inhalants. Selective beta-2-andrenoreceptor agonists

ATC code: R03AC02

Salbutamol is a selective β2-agonist providing short-acting (4-6 hour) bronchodilation with a fast onset (within 5 minutes) in reversible airways obstruction. At therapeutic doses it acts on the β2-adrenoceptors of bronchial muscle.

With its fast onset of action, it is particularly suitable for the management and prevention of attack in asthma.

5.2 Pharmacokinetic properties

Salbutamol administered intravenously has a half-life of 4 to 6 hours and is cleared partly renally and partly by metabolism to the inactive 4'-0-sulfate (phenolic sulfate) which is also excreted primarily in the urine. The faeces are a minor route of excretion. Most of a dose of Salbutamol given intravenously, orally or by inhalation is excreted within 72 hours. Salbutamol is bound to plasma proteins to the extent of 10%.

After administration by the inhaled route between 10 and 20% of the dose reaches the lower airways. The remainder is retained in the delivery system or is deposited in the oropharynx from where it is swallowed. The fraction deposited in the airways is absorbed into the pulmonary tissues and circulation, but is not metabolised by the lung. On reaching the systemic circulation it becomes accessible to hepatic metabolism and is excreted, primarily in the urine, as unchanged drug and as the phenolic sulfate.

The swallowed portion of an inhaled dose is absorbed from the gastrointestinal tract and undergoes considerable first-pass metabolism to the phenolic sulfate. Both unchanged drug and conjugate are excreted primarily in the urine.

5.3 Preclinical safety data

In an oral fertility and general reproductive performance study in rats at doses of 2 and 50 mg/kg/day, with the exception of a reduction in number of weanlings surviving to day 21 post partum at 50 mg/kg/day, there were no adverse effects on fertility, embryofetal development, litter size, birth weight or growth rate.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Disodium Edetate

Citric acid anhydrous

Sodium Citrate Dihydrate

Benzalkonium chloride

Purified water

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

3 years

6.4 Special precautions for storage

Store at temperature not exceeding 30o C, away from light and

used within one month after opening if stored at temperature

not exceeding 30o C.

6.5 Nature and contents of container

Carton box containing a leaflet and one opauqe white LDPE plastic dropper bottle with opaque white LDPE nozzle and a yellow HDPE screw cap containing 20 ml solution.

6.6 Special precautions for disposal

Not special requirements.

7. MARKETING AUTHORISATION HOLDER

PHARCO PHARMACEUTICALS.

Amriya, Alexandria-Cairo Desert Road, Km 31,

Alexandria- Egypt.

8. MARKETING AUTHORISATION NUMBER(S)

23379/ 2022.

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

01/09/2022.

10. DATE OF REVISION OF THE TEXT

July 2015.