KAY-SPC-VER-5.0

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

KAYEXALATE

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Contains Sodium Polystyrene Sulfonate 99.934% w/w.

3. PHARMACEUTICAL FORM

Powder for oral and rectal suspension.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Treatment of hyperkalemia.

4.2 Posology and method of administration

Sodium Polystyrene sulfonate is for oral or rectal administration only.

The quantity of sodium polystyrene sulfonate to be administered is directly related to the level of potassium in the blood; it should therefore be adjusted to individual patient needs.

As a guide:

In adults
Oral route:

A dosage of 15 g, or 1 measuring-spoonful or 4 level teaspoonfuls, once to four times a day by oromucosal use, is commonly prescribed. Sodium polystyrene sulfonate is administered after being put in suspension in a little water. Patients may decide to add a little fruit syrup to the water. Suspension in fruit juice is not allowed, because of the latter's high potassium content.

Administer Kayexalate at least 3 hours before or 3 hours after other oral medications. For patients with gastroparesis, a 6 hour separation should be considered (see sections 4.4 & 4.5).

Rectal route:

This route should be reserved for the patient who is vomiting or who has upper gastrointestinal tract problems, including paralytic ileus. It may be used simultaneously

with the oral route for more rapid initial results or in patients with gastroparesis, who have other orally administered medications that are administered within 6 hours of Kayexalate.

Sodium polystyrene sulfonate can be administered in an enema after being put in suspension in 100 ml of 10% dextrose solution at body temperature, or after mixing equal proportions of water and a 2% methylcellulose suspension.
The liquid containing the sodium polystyrene sulfonate in suspension should be agitated gently during administration to ensure it remains in suspension. The enema should be retained for 4 to 10 hours if possible, followed by a cleansing enema.
This operation can be repeated twice a day, if necessary.

N.B.: given that ion exchange occurs mainly in the colon, it may be necessary at the beginning of treatment to start by administering the product in both an enema and by oromucosal use. A reduction in blood potassium levels will thus be achieved more rapidly and then can be sustained by oral administration.
When it is necessary to pursue treatment for a long period of time, monitoring ensured by assays of blood potassium levels will enable adjustment of the effective dose.

In children
Oral route:

Adjustments of quantity should be based on the principle that 1 g of resin eliminates1 mmol (1 mEq) of potassium. The usual initial dosage via the oral route in children is1 g/kg body weight/day in several intakes, which can then be reduced for maintenance therapy to 0.5 g/kg body weight/day.

Rectal route:

When refused by mouth, Sodium polystyrene sulfonate can be administered in children via the rectal route at the same dosage as that used via the oral route and using the same methods as in adults.

In newborns:

Sodium polystyrene sulfonate should only be administered via the rectal route. The minimum effective dose is between 0.5 g/kg and 1 g/kg body weight/day.

4.3 Contraindications

- Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.
- - In patients with plasma potassium levels below 5mmol/litre.
- - History of hypersensitivity to polystyrene sulfonate resins.
- - Obstructive bowel disease.
- - Kayexalate should not be administered ***orally*** to neonates and is contraindicated in neonates with reduced gut motility (post-operatively or drug-induced).

4.4 Special warnings and precautions for use

Binding to other orally administered medications:

Kayexalate may bind to orally administered medications, which could decrease their gastrointestinal absorption and efficacy. Avoid co-administration of Kayexalate with other orally administered medications. Administer Kayexalate at least 3 hours before or 3 hours after other oral medications. For patients with gastroparesis, a 6-hour separation should be considered (see Sections 4.2 & 4.5).

Gastrointestinal stenosis and ischaemia: Gastrointestinal stenosis, intestinal ischemia and its complications (necrosis and perforation), some of them fatal, were reported in patients treated with polystyrene sulfonate alone or in combination with sorbitol. Concomitant use of Sorbitol with sodium polystyrene sulfonate is not recommended (see Section 4.5).

Patients should be advised to seek prompt medical advice in case of newly developed severe abdominal pain, nausea and vomiting, stomach distension and rectal bleeding.

Lesions seen in polystyrene sulfonate-induced gastrointestinal damage may overlap with those seen in inflammatory bowel disease, ischemic colitis, infectious colitis, and microscopic colitis.

Hypokalaemia:

The possibility of severe potassium depletion should be considered, and adequate clinical and biochemical control is essential during treatment, especially in patients on digitalis. Administration of the resin should be stopped when the serum potassium falls to 5mmol/litre.

Other electrolyte disturbances:

Because the resin may bind calcium and magnesium ions, deficiencies of these electrolytes may occur. Accordingly, patients should be monitored for all applicable electrolyte disturbances.

Other risks:

In the event of clinically significant constipation, treatment should be discontinued until normal bowel movement has resumed. Magnesium- containing laxatives should not be used (see section 4.5 Interactions).
The patient should be positioned carefully when ingesting the resin, in order to avoid aspiration, which may lead to bronchopulmonary complications.

Children and neonates:

In neonates, sodium polystyrene sulfonate should not be given by the oral route. In children and neonates particular care is needed with rectal administration as excessive dosage or inadequate dilution could result in impaction of the resin. Due to the risk of digestive haemorrhage or colonic necrosis, particular care should be observed in premature infants or low birth weight infants.

Patients at risk from an increase in sodium load:

Care should be taken when administering to patients in whom an increase in sodium load may be detrimental (i.e. congestive heart failure, hypertension, renal damage or oedema). In such instances, adequate clinical and biochemical control is essential. The calcium form of the resin may have advantages in this situation.

4.5 Interaction with other medicinal products and other forms of interaction

Orally administered medications: Kayexalate has the potential to bind to other orally administered medications. Binding of Kayexalate to other oral medications could cause

decrease in their gastrointestinal absorption and efficacy. Dosing separation of Kayexalate from other orally administered medications is recommended (see sections 4.2 & 4.4).

Concomitant use not recommended

Sorbitol (oral or rectal): Concomitant use of Sorbitol with sodium polystyrene sulfonate is not recommended due to cases of intestinal necrosis and other serious gastrointestinal adverse reactions, which may be fatal (see Section 4.4 Special warnings and Section 4.8 Undesirable effects).

To be used with caution

- Cation-donating agents: may reduce the potassium binding effectiveness of Kayexalate.
- Non-absorbable cation-donating antacids and laxatives: There have been reports of systemic alkalosis following concurrent administration of cation-exchange resins and non-absorbable cation-donating antacids and laxatives such as magnesium hydroxide and aluminium carbonate.
- Aluminium hydroxide: Intestinal obstruction due to concretions of aluminium hydroxide has been reported when aluminium hydroxide has been combined with the resin.
- Digitalis-like drugs: The toxic effects of digitalis on the heart, especially various ventricular arrhythmias and A-V nodal dissociation, are likely to be exaggerated if hypokalaemia is allowed to develop. (See 4.4 Special warnings and special precautions for use).
- Lithium: Possible decrease of lithium absorption.
- Levothyroxine: Possible decrease of levothyroxine absorption.

4.6 Fertility, pregnancy and lactation

No data are available regarding the use of polystyrene sulfonate resins in pregnancy and lactation. The administration of Kayexalate in pregnancy and during breast feeding therefore is not advised unless, in the opinion of the physician, the potential benefits outweigh any potential risks.

4.7 Effects on ability to drive and use machines

There are no specific warnings.

4.8 Undesirable effects

- **Metabolism and nutrition disorders**

In accordance with its pharmacological actions, the resin may give rise to sodium retention, hypokalaemia and hypocalcaemia, and their related clinical manifestations (see Section 4.4 Special warnings and Section 4.9 Overdose).

Cases of hypomagnesaemia have been reported.

- **Gastrointestinal disorders**

Gastric irritation, anorexia, nausea, vomiting, constipation and occasionally diarrhoea may occur. Faecal impaction following rectal administration particularly in children, and gastrointestinal concretions (bezoars) following oral administration have been reported. Gastrointestinal stenosis and intestinal obstruction have also been reported, possibly, due to co-existing pathology or inadequate dilution of the resin.

Gastrointestinal ischemia, ischemic colitis, gastro-intestinal tract ulceration or necrosis, which could lead to intestinal perforation have been reported which is sometimes fatal.

- **Respiratory, thoracic and mediastinal disorders**

Some cases of acute bronchitis and/or broncho-pneumonia associated with inhalation of particles of sodium polystyrene sulfonate have been described.

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. Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form https://sideeffects.health.gov.il/

4.9 Overdose

Biochemical disturbances from overdosage may give rise to clinical signs of symptoms of hypokalaemia, including irritability, confusion, delayed thought processes, muscle weakness, hyporeflexia and eventual paralysis. Apnoea may be a serious consequence of this progression. Electrocardiographic changes may be consistent with hypokalaemia; cardiac arrhythmia may occur. Hypocalcaemic tetany may occur. Appropriate measures should be taken to correct serum electrolytes and the resin should be removed from the alimentary tract by appropriate use of laxatives or enemas.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Kayexalate is a cation exchange resin for the treatment of hyperkalaemia.

5.2 Pharmacokinetic properties

Ion exchange resins with a particle size ranging from 5 - 10 micrometres (as in Kayexalate) are not absorbed from the gastro-intestinal tract and are wholly excreted in the faeces.

5.3 Preclinical safety data

There are no pre-clinical data of relevance to the prescriber which are additional to that already included in other sections of the SPC.

6. PHARMACEUTICAL PARTICULARS

6.1 List of Excipients

Kayexalate also contains: saccharin and vanillin. .

6.2 Incompatibilities
There are no specific incompatibilities.

6.3 Shelf life
The expiry date of the product is indicated on the packaging materials
The product can be used for up to 1 month from its opening.

6.4 Special precautions for storage
Store below 30^0C. Should be firmly closed to protect from light and humidity.

6.5 Nature and contents of container
HDPE bottles sealed with LDPE caps containing 454g of powder.

6.6 Special precautions for disposal and other handling
Suspension of the resin should be freshly prepared. Heating may alter the exchange properties of the resin.

7. LICENSE HOLDER AND IMPORTER
Sanofi-aventis Israel ltd.
Beni Gaon st.10, POB 8090, Netanya, Israel.

Revised in December 2021 according to MoH guidelines.