Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Syrisal 1mmol/ml oral solution

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml of oral solution contains 1 mmol (58.44 mg) of sodium chloride.

Excipients with known effect:
Each ml of oral solution contains 0.8 mg of methyl parahydroxybenzoate (E218), 0.05 mg of propyl parahydroxybenzoate (E216), 0.05 ml (63 mg/ml) of glycerol (E422) and 23mg of sodium.

For the full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Oral Solution

A clear, colourless solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

Syrisal 1 mmol/ml oral solution is indicated for the treatment and prophylaxis of sodium chloride deficiency.

4.2 Posology and method of administration

Posology
Adults (including the elderly):
The recommended dosing regimen has been impirically derived. It is therefore important that the dosage selection should be adjusted according to the age, weight, the extent of sodium deficit and clinical condition of the patient. A typical oral replacement dose of Syrisal in chronic salt-losing conditions is about 40-80 mmol (40-80 ml; 2.4-4.8 g) of sodium daily, given as divided doses. A maximum rate of administration of 10-12 mmol per litre of body water per 24 hour period, or 18 mmol/L/48 hours should observed.

Paediatric population
As for adults dosage should be adjusted to individual needs. Typically, children should receive 1- 2 mmol per kg (1-2ml/kg; 60-120 mg/kg) over a 24 hour period. In neonates, the dose should be administered in breast milk (3-4 mmol/100ml; 3-4ml/100ml) or formula milk (2 mmol/100ml; 2ml/100ml).

Renal impairment
Dose adjustment may be necessary depending on the clinical condition of the patient and close monitoring of serum sodium levels.

Method of administration
For oral administration.
The oral solution may be diluted in a glass of water or baby's bottle.
Syrisal solution should **not** be used to induce emesis as there is a danger of induction of hypernatraemia.

4.3 Contraindications

Syrisal 1mmol/ml oral solution is contra-indicated in any situation where salt retention is undesirable, such as oedema, heart disease, cardiac decompensation and primary or secondary aldosteronism; or where therapy is being given to produce salt and water loss.

Hypersensitivity to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

Syrisal 1 mmol/ml Oral Solution should be administered with caution to patients with hypertension, heart failure, peripheral and pulmonary oedema, renal impairment, pre-eclampsia, or other conditions associated with sodium retention.

Patients with the above mentioned conditions should be monitored frequently during the period of medication with Syrisal oral solution. In addition, care is also required when administering this solution to very young or to elderly patients. Pseudohyponatraemia is a condition in which spuriously low concentrations of sodium are found when plasma sodium is measured by conventional methods. It may occur when there is an abnormally high concentration of large molecules and hence an abnormally low percentage of plasma water. This may occur in hyperlipaemia and hyperproteinaemia and has also been reported in patients with diabetes mellitus. Correct values may be obtained by referring the concentration to plasma water.

Excipient(s) warning:
This product contains propyl parahydroxybenzoate (E216) and methyl parahydroxybenzoate (E218), which may cause allergic reactions (possibly delayed).
This product also contains 1mmol (23mg) sodium per ml. To be taken into consideration by patients on a controlled sodium diet.

4.5 Interaction with other medicinal products and other forms of interactions

No interaction studies have been performed. In hypertensive patients with chronic renal failure sodium chloride may tend to impair the efficacy of antihypertensive drugs. Increasing sodium serum levels may result in a decrease in serum lithium levels in patients receiving lithium therapy.

4.6 Fertility, pregnancy and lactation

Pregnancy
No adverse effects during pregnancy are anticipated.

Breast-feeding
No adverse effects during breast-feeding are anticipated.

Fertility
Sodium chloride is not expected to have an adverse effect on fertility.

4.7 Effects on ability to drive and use machines

None.

4.8 Undesirable effects

Injudicious saline therapy (e.g. post-operatively and in patients with impaired cardiac or renal function) may cause hypernatraemia. The most serious effects of hypernatraemia is caused by osmotically induced water shifts that decrease intracellular volume, resulting in dehydration of internal organs, especially the brain. Dehydration of the brain may cause somnolence and confusion, progressing to convulsions, coma, respiratory failure, and death.

General adverse effects of sodium chloride excess in the body are as follows. The following adverse reactions are classified by system organ class and ranked under heading of frequency using the following convention: very common (≥ 10%), common (≥ 1% and < 10%); uncommon (≥ 0.1% and < 1%); rare (≥ 0.01% and < 0.1%), very rare (< 0.01%), not known (cannot be estimated from the available data).

MedDRA System Organ Class	**Adverse Reaction**
Gastrointestinal disorders:	
Frequency: Not known	Nausea, Vomiting, Diarrhoea, Abdominal cramps, thirst, reduced

	salivation and lachrymation
Cardiac disorders	
Frequency: Not known	tachycardia
Vascular disorders	
Frequency: Not known	Hypertension, hypotension
Nervous system disorders	
Frequency: Not known	Headache, dizziness
General disorders and administration site conditions	
Frequency: Not known	Fever, sweating, restlessness, irritability, weakness, muscular twitching and rigidity

Administration of large doses may give rise to sodium accumulation, oedema, and hyperchloraemic acidosis.

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 via HPRA Pharmacovigilance, Earlsfort Terrace, IRL - Dublin 2; Tel: +353 1 6764971; Fax: +353 1 6762517. Website: www.hpra.ie; E-mail: medsafety@hpra.ie.

4.9 Overdose

Signs and symptoms.
Excessive intake of sodium chloride can result in hypernatraemia. Symptoms of hypernatraemia include restlessness, weakness, thirst, reduced salivation and lachrymation, swollen tongue, flushing of the skin, pyrexia, dizziness, headache, oliguria, hypertension, tachycardia, delirium, hyperpnoea and respiratory arrest.

Treatment.
Treatment requires the use of sodium-free liquids and the cessation of excessive sodium intake. In the event of a significant overdose serum sodium levels should be evaluated as soon as possible and appropriate steps taken to correct any abnormalities. The use of a loop diuretic e.g. frusemide (with potassium supplementation as required) may be appropriate in severe cases of hypernatraemia. Levels should be monitored until they return to normal.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

ATC Code: A12CA01 Other mineral supplements, sodium.

Mode of action: Sodium chloride is the principle salt involved in maintaining the osmotic tension of blood and tissues. Changes in osmotic tension influence the movement of fluids and diffusion of salts in cellular tissue.

Syrisal 1 mmol/ml oral solution provides a source of sodium (in the form of sodium chloride) where a deficiency exists.

5.2 Pharmacokinetic properties

Absorption
Sodium chloride is readily absorbed from the gastro-intestinal tract.

Distribution
It is present in all body fluids but specially in the extracellular fluid.

Biotransformation
Sodium chloride is not significantly metabolised.

Elimination
Excess sodium is mainly excreted by the kidney, and small amounts are list in the faeces and sweat.

Linearity/non-linearity
Osmotic balance is maintained by excretion of surplus amounts in the urine.

5.3 Preclinical safety data

Non-clinical data reveal no special hazard for humans based on conventional studies of safety pharmacology, repeated dose toxicity, genotoxicity, carcinogenic potential, toxicity to reproduction and development.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Glycerol (E422)
Sodium citrate
Methyl parahydroxybenzoate (E218)
Propyl parahydroxybenzoate (E216)
Purified water

6.2 Incompatibilities

None known.

6.3 Shelf life

24 months.
Discard 30 days after first opening.

6.4 Special precautions for storage

This medicinal product does not require any special storage conditions.
For storage conditions after first opening of the medicinal product, see section 6.3.

6.5 Nature and contents of container

Bottle: Amber or clear glass
Closure: Child resistant plastic screw cap
Pack size: 100ml and 300ml
Not all pack size may be marketed.
Dosing Device: 20 ml dosage syringe with 1 ml graduation mark and a syringe adaptor

6.6 Special precautions for disposal

No special requirements.

7 MARKETING AUTHORISATION HOLDER

Syri Pharma Limited t/a Thame Laboratories
Floor 0
1 WML
1 Windmill Lane
Dublin 2
D02 F206
Ireland

8 MARKETING AUTHORISATION NUMBER

PA22697/016/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 30th September 2016
Date of last renewal: 13th August 2021

10 DATE OF REVISION OF THE TEXT

March 2021