Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Lactulose 10 g/15 ml Oral Solution Sachets

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

One sachet (15 ml) contains 10 g lactulose (as lactulose liquid).

3 PHARMACEUTICAL FORM

Oral solution

Clear colourless to pale brownish yellow, viscous solution

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

- Symptomatic treatment of constipation

Lactulose is indicated in adults and in children and adolescents aged 7 to 18 years. For children below 7 years, other dosage forms are available.

4.2 Posology and method of administration

Posology

Lactulose may be administered diluted or undiluted. The dose should be titrated according to the clinical response. Lactulose may be given as a single daily dose or in two to three divided doses.
A single dose of lactulose should be swallowed in one and should not be kept in the mouth for an extended period of time.

The posology should be adjusted according to the individual needs of the patient. The starting dose can be adjusted after adequate treatment effect individually (maintenance dose). Several days (2-3 days) of treatment may be needed in some patients before adequate treatment effect occurs. In case of single daily dose, this should be taken at the same time of the day, e.g. during breakfast. During the therapy with laxatives it is recommended to drink sufficient amounts of fluids (1.5-2 l/day, equal to 6-8 glasses).

If diarrhoea occurs, the dosing regimen should be reduced.
The duration of treatment has to be adopted according to the symptoms.

	Starting dose		Maintenance dose	
Adults	15-45 ml daily	1-3 sachets, corresponding to 10-30 g lactulose	15-30 ml daily	1-2 sachets, corresponding to 10-20 g lactulose

Older people
In elderly patients no special dosage recommendations exist.

Patients with renal or hepatic impairment
In patients with renal or hepatic insufficiency no special dosage recommendations exist.

Paediatric population

	Starting dose		Maintenance dose	
Adolescents over 14 years	15-45 ml daily	1-3 sachets, corresponding to 10-30 g lactulose	15-30 ml daily	1-2 sachets, corresponding to 10-20 g lactulose
Children (7-14 years)	15 ml daily	1 sachet, corresponding to 10 g lactulose	15 ml daily	1 sachet, corresponding to 10 g lactulose

For a precise dosing for infants, toddlers and children up to 6 years, lactulose is available in bottles.

Method of administration
Oral use.

4.3 Contraindications

- Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.
- Use in patients with galactosaemia.
- Acute inflammatory bowel disease (ulcerative colitis, Crohn's disease), gastrointestinal obstruction or subocclusive syndromes, digestive perforation or risk of digestive perforation, painful abdominal syndromes of undetermined cause.

4.4 Special warnings and precautions for use

In case of insufficient therapeutic effect after several days consultation of a physician is advised.
From the route of synthesis Lactulose may contain small amounts of sugars (Not more than 67 mg/ml lactose, 100 mg/ml galactose, 67 mg/ml epilactose, 27 mg/ml Tagatose and 7 mg/ml Fructose).
Patients with rare hereditary problems of galactose or fructose intolerance, the Lapp lactase deficiency or glucose-galactose mal-absorption should not take this medicine.

Lactulose should be administered with care to patients who are intolerant to lactose.
Lactulose may contain more than 5 g lactose/galactose/epilactose depending upon the dose taken. This should be taken into account in patients with diabetes mellitus.
15 ml of Lactulose contain 42.7 KJ (10.2 kcals) = 0.21 BU.

For patients with gastro-cardiac syndrome (Roemheld syndrome) lactulose should only be taken after consultation of a physician. If symptoms like meteorism or bloating occur in such patients after lactulose intake, the dose should be reduced or the treatment should be discontinued.

Chronic use of unadjusted doses and misuse can lead to diarrhoea and disturbance of the electrolyte balance.
For elderly patients or patients that are in bad general condition and take lactulose for a more than 6 months period, periodic control of electrolytes is indicated.

During the therapy with laxatives it is recommended to drink sufficient amounts of fluids
(1.5-2 l/day, equal to 6-8 glasses).

Paediatric population
Use of laxatives in children should be exceptional and under medical supervision.
Lactulose should be administrated with caution in infants and small children with autosomal recessive hereditary fructose intolerance.
The defecation reflex may be altered during the treatment with lactulose.

4.5 Interaction with other medicinal products and other forms of interaction

Lactulose may increase the loss of potassium induced by other drugs (e.g. thiazides, steroids and amphotericin B). Concomitant use of cardiac glycosides can increase the effect of the glycosides through potassium deficiency.
With increasing dosage a decrease of pH-value in the colon is found. Therefore drugs which are released in the colon pH-dependently (e.g. 5-ASA) can be inactivated.

4.6 Fertility, pregnancy and lactation

Pregnancy
Limited data on pregnant patients indicate neither malformative nor foeto/neonatal toxicity. Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, embryonal/foetal development, parturition or postnatal development (see section 5.3).
The use of Lactulose may be considered during pregnancy if necessary.

Breast-feeding
Lactulose can be used during breastfeeding.

Fertility
For Lactulose no clinical data on the effects on fertility are available.

4.7 Effects on ability to drive and use machines

Lactulose has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

Very common	≥ 1/10
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
Not known	cannot be estimated from the available data

Flatulence may occur during the first few days of treatment. As a rule it disappears after a couple of days. When dosages higher than instructed are used, abdominal pain and diarrhoea may occur. In such a case the dosage should be decreased.

Gastrointestinal disorders
Very common (≥ 1/10): Flatulence, abdominal pain.
Common (≥ 1/100 < 1/10): Nausea and vomiting; if dosed too high, diarrhoea (sometimes including electrolyte imbalance).

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

Symptoms:
If the dose is too high, the following may occur: diarrhoea and abdominal pain.

Management: cessation of treatment or dose reduction. Extensive fluid loss by diarrhoea or vomiting may require correction of electrolyte disturbances.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Drugs for constipation. Osmotically acting laxatives
ATC code: A06A D11

Lactulose is a synthetic disaccharide formed from D-galactose and fructose. Lactulose as a prebiotic substance strengthens the growth of bifidobacteria and lactobacilli, whereas Clostridium and Escherichia coli may be suppressed. In the colon lactulose is metabolised by bacterial enzymes to short chain fatty acids mainly lactic and acetic acid as well as methane and hydrogen. This effect leads to a decrease of the pH-value and an increase of the osmotic pressure in the colon. This causes stimulation of peristalsis and an increase of the water content of the faeces.

5.2 Pharmacokinetic properties

Lactulose is practically not absorbed, because in man there is no corresponding disaccharidase available in the upper intestinal tract. Not being absorbed as such, it reaches the colon unchanged. There it is metabolised by the colonic bacterial flora. Metabolism is complete at doses up to 25-50 g or 40-75 ml; at higher dosages, a proportion may be excreted unchanged.

5.3 Preclinical safety data

Preclinical data based on studies of single and repeated dose toxicity reveal no special hazards for humans. A long-term animal study does not give reference to tumorigenic potential. Lactulose was not teratogenic in mice, rats and rabbits. After oral administration systemic toxicity is not to be expected due to the pharmacological and pharmacokinetic properties of lactulose.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

None

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

3 years
Partially used sachets have to be discarded.

6.4 Special precautions for storage

Do not store above 25 °C.

6.5 Nature and contents of container

Sachets containing 15ml made of polyester/aluminium/polyethylene layer membrane:
10, 20, 30, 50 and 100 sachets.
Not all pack sizes may be marketed.

6.6 Special precautions for disposal

No special requirements.

7 MARKETING AUTHORISATION HOLDER

Fresenius Kabi Austria GmbH
Hafnerstrasse 36
8055 Graz
Austria

8 MARKETING AUTHORISATION NUMBER

PA0773/004/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 3rd June 2011

Date of last renewal: 8th July 2015

10 DATE OF REVISION OF THE TEXT

January 2017