IRISH MEDICINES BOARD ACT 1995, as amended

Medicinal Products (Control of Placing on the Market) Regulations, 2007, as amended

PA0566/012/004
Case No: 2060221

The Irish Medicines Board in exercise of the powers conferred on it by the above mentioned Regulations hereby grants to

Fresenius Kabi Limited

Cestrian Court, **Eastgate Way**, **Manor Park, Runcorn**, **Cheshire WA7 1NT**, **United Kingdom**

an authorisation, subject to the provisions of the said Regulations, in respect of the product

Vamin 9 Glucose, Solution for Infusion 1000 ml

the particulars of which are set out in the attached Schedule. The authorisation is also subject to the general conditions as may be specified in the said Regulations as listed on the reverse of this document.

This authorisation, unless previously revoked, shall continue in force from **27/08/2010**.

Signed on behalf of the Irish Medicines Board this

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A person authorised in that behalf by the said Board.

Part II

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Vamin 9 Glucose, Solution for Infusion 1000 ml

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each litre contains	
Alanine	3.00g
Arginine	3.30g
Aspartic Acid	4.10g
Cysteine/L-Cystine	1.40g
Glutamic Acid	9.00g
Glycine	2.10g
L-Histidine	2.40g
Isoleucine	3.90g
Leucine	5.30g
L-Lysine (as hydrochloride)	3.90g
L-Methionine	1.90g
Phenylalanine	5.50g
Proline	8.10g
Serine	7.50g
L-Threonine	3.00g
L-Tryptophan	1.00g
L-Tyrosine	0.50g
Valine	4.30g
Glucose anhydrous	100.0g
Sodium	50 mmol
Potassium	20 mmol
Calcium	2.5 mmol
Magnesium	1.5 mmol
Chloride	50 mmol

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Solution for infusion.
Clear, slightly yellow to yellow sterile solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

In the prophylaxis and therapy of protein, carbohydrate and electrolyte deficiency, where sufficient enteral feeding is not possible.

4.2 Posology and method of administration

Route of administration: Intravenous

Recommended dosage for adults

Depending upon patient requirements 0.5-2.0 litres intravenously per 24 hours.

Administration should be by slow intravenous infusion at approximately 40-55 drops per minute (2.1-2.8 ml/min) corresponding to an infusion time of 6-8 hours per litre.

Recommended dosage for children

Due to the relatively high phenylalanine content of this solution, an infant formula should be administered to ill or pre-term infants and to neonates.

For other infants, 30 ml/kg bodyweight to be achieved gradually during the first week of administration. Monitoring of phenylalanine levels should be carried out at regular intervals.

4.3 Contraindications

Advanced liver or renal disease when dialysis facilities are not available.

Use in hyperkalaemia such as is associated with adrenal insufficiency or severe renal insufficiency.

4.4 Special warnings and precautions for use

- Where shock, metabolic acidosis or severe dehydration is present, the condition should be corrected before the commencement of intravenous feeding.
- Catheters for I.V. feeding should be placed using strict aseptic technique with proper fixation and dressing and x-ray confirmation were possible. Asepsis should be maintained during changes of tubing and dressing and use of the catheter should be confined to I.V. feeding alone.
- Patients receiving these infusions may suffer from air embolism, central venous thrombosis, catheter-linked sepsis, and infusion thrombophlebitis. Care should be taken to avoid these complications. Immuno-suppressed patients are particularly prone to infections.
- Abnormalities of liver function tests and cholestatis have been observed in patients receiving total parenteral nutrition.
- To achieve optimal utilisation of administered amino acids, adequate energy sources e.g. glucose solutions and fat emulsions, should be provided.
- Discard if container is leaking, or if solution is cloudy or is in any other way suspicious.
- Potentially toxic hyperphenylalaninaemia (plasma levels > 600 µmol/litre) has been reported in infants in association with use of some amino acid solutions. When Vamin 9 Glucose is used in infants, plasma phenylalanine levels should be monitored and kept within the range of 200-500 µmol/litre.
- Potassium replacement therapy is critical and plasma electrolyte levels should be carefully monitored, especially in patients with pre-existing imbalances, in renal failure or in hepatic disease. Plasma levels may not be directly related to tissue levels.
- Potassium replacement should be used with extreme caution in patients with cardiac disease, renal dysfunction, digitalisation and hepatic insufficiency.
- Care should be exercised in the administration of large volume infusion fluids to patients with cardiac insufficiency, similarly caution should be taken with the administration of amino acid infusions to patients with disturbances in protein metabolism.

4.5 Interaction with other medicinal products and other forms of interaction

Amino acid solutions may precipitate acute folate deficiency and folic acid should be given daily.

4.6 Pregnancy and lactation

Animal reproduction studies have not been carried out with Vamin 9 Glucose. There are, however, published reports on the successful and safe infusion of amino acid solutions during pregnancy in the human.

4.7 Effects on ability to drive and use machines

Not applicable.

4.8 Undesirable effects

Vomiting, flushing and sweating may occur rarely, particularly if the recommended rate of infusion is exceeded. Abnormal liver function tests have been observed during intravenous infusion, but these return to normal when artificial feeding is stopped.

Cholestasis has been reported in some patients receiving intravenous nutrition. Thrombophlebitis may occur when peripheral veins are used but the incidence is reduced by the simultaneous infusion of a fat emulsion.

4.9 Overdose

In general significant overdosage with Vamin 9 Glucose does not occur. Excessive infusion rates may result in nausea, vomiting, flushing and sweating.

The effects of overdosage are likely to be due to the volume infused and the hypertonicity of the solution, i.e. circulating overload. The amount required to produce this effect will vary depending on the patient's condition, cardiac and renal status.

There are no specific antidotes for overdosage.

In case of suspicion of overdosage the infusion should immediately be stopped.

Emergency procedures should be general supportive measures: respiratory and cardiovascular. Close biochemical monitoring would be essential and specific abnormalities treated appropriately, perhaps by the careful infusion of hypotonic solutions and concomitant diuretic therapy, and administration of Na Bicarbonate for metabolic acidosis.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Vamin 9 Glucose is formulated to supply amino acids in the physiological L-form with electrolytes for intravenous nutrition.

5.2 Pharmacokinetic properties

Vamin 9 Glucose is an amino acid solution without interest for pharmacokinetic studies.

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 Summary of Product Characteristics.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium Hydroxide (for pH adjustment)
Potassium Hydroxide (for pH adjustment)
Water for Injection

6.2 Incompatibilities

No other medications or substance should be added to this fluid unless compatibility is known.

6.3 Shelf Life

Unopened: 12 months.
Once opened, use immediately and discard any remaining contents.

6.4 Special precautions for storage

Do not store above 25^{o}C. Do not freeze.

6.5 Nature and contents of container

Type II (Ph.Eur.) glass infusion bottle sealed with a butyl rubber stopper.
Package quantities: 1000ml

6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product

The manufacturer can be consulted for full information on complete and balanced intravenous nutrition regimens.

For single infusion only. Discard any remaining contents immediately after use. Do not use if solution is cloudy or if particles are visible.

7 MARKETING AUTHORISATION HOLDER

Fresenius Kabi Limited
Cestrian Court
Eastgate Way
Runcorn
Cheshire
WA7 1NT
United Kingdom

8 MARKETING AUTHORISATION NUMBER

PA 0566/012/004

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 08 April 1987

Date of last renewal: 08 April 2007

10 DATE OF REVISION OF THE TEXT

February 2008