PROFESSIONAL INFORMATION

SCHEDULING STATUS

S3

1 NAME OF THE MEDICINE

AMINOVEN 5 %

AMINOVEN 10 %

AMINOVEN 15 %

Strength: 5 %, 10 %, 15 % (multicomponent amino acids)

Solution for infusion

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

1 000 ml solution for infusion contains:

	AMINOVEN 5 %	AMINOVEN 10 %	AMINOVEN 15 %
Isoleucine	2,50 g	5,00 g	5,20 g
Leucine	3,70 g	7,40 g	8,90 g
Lysine acetate	4,655 g	9,31 g	15,66 g
(= Lysine)	(3,30 g)	(6,60 g)	(11,10 g)
Methionine	2,15 g	4,30 g	3,80 g
Phenylalanine	2,55 g	5,10 g	5,50 g
Threonine	2,20 g	4,40 g	8,60 g
Tryptophan	1,00 g	2,00 g	1,60 g
Valine	3,10 g	6,20 g	5,50 g
Arginine	6,00 g	12,00 g	20,00 g
Histidine	1,50 g	3,00 g	7,30 g

Alanine	7,00 g	14,00 g	25,00 g
Glycine	5,50 g	11,00 g	18,50 g
Proline	5,60 g	11,20 g	17,00 g
Serine	3,25 g	6,50 g	9,60 g
Tyrosine	0,20 g	0,40 g	0,40 g
Taurine	0,50 g	1,00 g	2,00 g

Total amino acids:	50,0 g/l	100,0 g/l	150,0 g/l
Total nitrogen:	8,1 g/l	16,2 g/l	25,7 g/l
Total energy (kJ/l):	840 (= 200 kcal/l)	1 680 (= 400 kcal/l)	2 520 (= 600 kcal/l)
pH value:	5,5 – 6,3	5,5 – 6,3	5,5 – 6,3
Titration acidity (mmol NaOH/l):	12	22	44
Theoretical osmolarity:	495 mosm/l	990 mosm/l	1 505 mosm/l

Sugar free.

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

AMINOVEN 5 % and 10 %: A clear solution in 500 ml and 1 000 ml glass bottles.

AMINOVEN 15 %: A clear solution in 250 ml, 500 ml and 1 000 ml glass bottles.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

AMINOVEN 5 %, 10 % and 15 %:

For supply of amino acids as part of a parenteral nutrition regimen.

AMINOVEN 15 % is mainly indicated if, during parenteral nutrition therapy, the fluid volume needs to be restricted.

4.2 Posology and method of administration

Posology

The daily requirement of amino acids depends on the body weight and the metabolic conditions of the patient.

The maximum daily dose varies with the clinical condition of the patient and may even change from day to day.

The recommended infusion period is to provide a continuous infusion for at least 14 hours up to 24 hours, depending on the clinical situation. Bolus administration is not recommended.

The solution is administered as long as a parenteral nutrition is required.

Adult dose:

AMINOVEN 5 %:

16 – 20 ml of AMINOVEN 5 % per kg body weight/day (equivalent to 0,8 – 1,0 g amino acids per kg body weight), corresponding to 1 120 – 1 400 ml AMINOVEN 5 % at 70 kg body weight/day.

AMINOVEN 10 %:

10 – 20 ml of AMINOVEN 10 % per kg body weight/day (equivalent to 1,0 – 2,0 g amino acids per kg body weight), corresponding to 700 – 1 400 ml AMINOVEN 10 % at 70 kg body weight/day.

AMINOVEN 15 %:

6,7 – 13,3 ml of AMINOVEN 15 % per kg body weight/day (equivalent to 1,0 – 2,0 g amino acids per kg body weight), corresponding to 470 – 930 ml AMINOVEN 15 % at 70 kg body weight/day.

Maximum infusion rate:

AMINOVEN 5 %:

2,0 ml of AMINOVEN 5 % per kg body weight/hour (equivalent to 0,1 g amino acids per kg body weight/hour).

AMINOVEN 10 %:

1,0 ml of AMINOVEN 10 % per kg body weight/hour (equivalent to 0,1 g amino acids per kg body weight/hour).

AMINOVEN 15 %:

0,67 ml of AMINOVEN 15 % per kg body weight/hour (equivalent to 0,1 g amino acids per kg body weight/hour).

Maximum daily dose:

AMINOVEN 5 %:

20 ml of AMINOVEN 5 % per kg body weight/day (equivalent to 1,0 g amino acids per kg body weight/day) corresponding to 70 g amino acids at 70 kg body weight.

AMINOVEN 10 %:

20 ml of AMINOVEN 10 % per kg body weight/day (equivalent to 2,0 g amino acids per kg body weight/day) corresponding to 1 400 ml AMINOVEN 10 % or 140 g amino acids at 70 kg body weight.

AMINOVEN 15 %:

13,3 ml of AMINOVEN 15 % per kg body weight/day (equivalent to 2,0 g amino acids per kg body weight/day) corresponding to 140 g amino acids at 70 kg body weight.

The solution is administered as long as parenteral nutrition is required.

Paediatric population

No studies have been performed in the paediatric population.

- AMINOVEN 15 % is contraindicated in children (see section 4.3).
- AMINOVEN 5 % and 10 % are contraindicated in children less than 2 year of age (see section 4.3).

Children and adolescents (2-18 years)

The dose should be adjusted to hydration status, biological development and body weight.

Maximum infusion rate:

Same as for adults, see information above.

Maximum daily dose:

AMINOVEN 5 %: 40 ml per kg body weight/day (equivalent to 2,0 g amino acids per kg body weight/day) but total daily fluid intake must be considered.

AMINOVEN 10 %: Same as for adults; see information above.

Method of administration

For administration only via a central vein as a continuous infusion. AMINOVEN 5 %, 10 % and 15 % should be used with sterile transfer equipment immediately after opening. Any unused solution should be discarded. Only clear, particle-free solutions in undamaged containers should be used.

AMINOVEN 5 %, 10 % and 15 % may be aseptically mixed with other nutrients such as fat emulsions, carbohydrates and electrolytes.

TPN admixtures compounded in uncontrolled or unvalidated conditions should be used immediately (in-use storage should be no longer than 24 hours at 2-8 °C).

4.3 Contraindications

- The administration of AMINOVEN 5 % and 10 %, is contraindicated in children less than 2 years of age.
- The administration of AMINOVEN 15 % is contraindicated in children.
- Disturbances of amino acid metabolism, metabolic acidosis, renal insufficiency without haemodialysis or haemofiltration treatment, advanced liver insufficiency, fluid overload, shock, hypoxia, decompensated heart failure.

4.4 Special warnings and precautions for use

Serum electrolytes, fluid balance and renal function should be monitored.

In cases of hypokalaemia and/or hyponatraemia adequate amounts of potassium and/or sodium should be administered simultaneously.

Amino acid solutions such as AMINOVEN 5 %, 10 % and 15 % may precipitate acute folate deficiency; folic acid should therefore be given daily.

Care should be taken if large volumes are infused in patients with cardiac insufficiency.

Infusion via peripheral veins in general can cause irritation of the vein wall and thrombophlebitis. Therefore, AMINOVEN 5 %, 10 % or 15 % should not be infused via peripheral vein.

If adjunction of lipid emulsions is indicated it should be administered where possible as a mixture with AMINOVEN 5 %, in order to minimise the risk of vein irritation.

Strict asepsis should be maintained, particularly when inserting a central vein catheter.

AMINOVEN 5 %, 10 % and 15 % are applicable as part of a total parenteral nutrition in combination with adequate amounts of energy supplements (carbohydrate solutions, lipid emulsions), electrolytes, vitamins and trace elements.

4.5 Interactions with other medicines and other forms of interaction

No interactions are known to date.

Due to the increased risk of microbiological contamination and incompatibilities, amino acid solutions should not be mixed with other medicines.

Should it become necessary to add other nutrients, like carbohydrates, lipid emulsions, electrolytes, vitamins or trace elements to AMINOVEN 5 %, 10 % or 15 % for complete parenteral nutrition, care should be given to aseptic techniques, thorough mixing and, in particular, to compatibility.

4.6 Fertility, pregnancy and lactation

No specific studies have been performed to assess the safety of AMINOVEN 5 %, 10 % or 15 % in pregnancy, fertility or lactation. The risk/benefit relationship should be considered before administering AMINOVEN 5 %, 10 % or 15 % during pregnancy or lactation.

4.7 Effects on ability to drive and use machines

Not Applicable

4.8 Undesirable effects

None known when correctly administered.

Those that occur during overdose (see section 4.9) are usually reversible and regress when therapy is discontinued. Infusion via peripheral veins in general can cause irritation of the vein wall and thrombophlebitis, and should therefore be avoided.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicine is important. It allows continued monitoring of the benefit/risk balance of the medicine. Health care providers are asked to report any suspected adverse reactions to SAHPRA via the “6.04

Adverse Drug Reactions Reporting Form", found online under SAHPRA's publications: https://www.sahpra.org.za/Publications/Index/8.

4.9 Overdose

Shivering, vomiting, nausea and increased renal amino acid losses can occur when AMINOVEN 5 %, 10 % or 15 % is given in overdose or the infusion rate is exceeded. Infusion should be stopped immediately in this case. It may be possible to continue with a reduced dosage. A too rapid infusion can cause fluid overload and electrolyte disturbances. There is no specific antidote for overdose. Emergency procedures should be supportive general measures, with particular attention to respiratory and cardiovascular systems. Close biochemical monitoring is essential and specific abnormalities should be treated appropriately.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

A 23 Amino acids

Pharmacotherapeutic group: Amino acids - solution for parenteral nutrition, ATC code: B05B A01

The amino acids contained in AMINOVEN 5 %, 10 % and 15 % are all naturally occurring physiological compounds. As with the amino acids derived from the ingestion and assimilation of food proteins, parenterally administered amino acids enter the body pool of free amino acids and all subsequent metabolic pathways.

5.2 Pharmacokinetic properties

The amino acids in AMINOVEN 5 %, 10 % and 15 % enter the plasma pool of corresponding free amino acids. From the intravascular space, amino acids distribute to the interstitial fluid and are individually regulated for each single amino acid into the intracellular space of

different tissues as required.

Plasma and intracellular free amino acid concentrations are endogenously regulated for each single amino acid within narrow ranges, depending on the age, nutritional status and pathological condition of the patient. Balanced amino acid solutions such as AMINOVEN 5 %, 10 % and 15 % do not significantly alter the physiological amino acid pool of essential and non-essential amino acids when infused at a constant and slow infusion rate. Characteristic changes in the physiological amino acid pool of the plasma are only foreseeable when the homeostatic function of essential organs like liver and kidneys are seriously impaired. In such cases special formulated amino acid solutions may be recommended for restoring homeostasis.

Only a small proportion of the infused amino acids are eliminated by the kidneys. For the majority of amino acids plasma half-lives of between 10 and 30 minutes have been reported.

5.3 Preclinical safety data

Preclinical toxicity data are available for single amino acids but are not relevant to mixtures of amino acids in solutions such as AMINOVEN 5 %, 10 % and 15 %. No preclinical toxicity studies with AMINOVEN 5 %, 10 % and 15 % have been carried out. Studies with comparable amino acid solutions have shown no toxic effect.

Intravenous infusion of doses of AMINOVEN 5 % were well tolerated in rabbits. AMINOVEN 5 % administered in error by intra-arterial infusion, paravenous, subcutaneous or intramuscular injection to rabbits caused histopathological changes (eg oedema, haemorrhage, lymphohistiocytic infiltration) comparable to those seen in the control animals, but was otherwise well tolerated.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Glacial acetic acid (for pH-adjustment), water for injection

In addition in AMINOVEN 15 % only: Malic acid (for pH-adjustment)

6.2 Incompatibilities

Due to the increased risk of microbiological contamination and incompatibilities, amino acid solutions should not be mixed with other medicinal products. Should it become necessary to add other nutrients, see sections 6.3, 6.4 and 6.6.

6.3 Shelf life

Shelf life of the medicinal product as packaged for sale:

24 months

Shelf life after first opening of the container:

AMINOVEN 5 %, 10 % and 15 % should be used with sterile transfer equipment immediately after opening. Any unused solution should be discarded.

Shelf-life after mixing with other components:

In general, total parenteral nutrition (TPN) admixtures may be stored for a maximum period of 24 hours at 2 to 8 °C, unless a longer storage period has been proven. (See section 6.4.)

6.4 Special precautions for storage

Store at or below 25 °C.

Do not freeze.

Keep container in the outer carton.

Storage precautions after mixing with other components:

AMINOVEN 5 %, 10 % and 15 % may be aseptically admixed with other nutrients as lipid

emulsions, carbohydrates and electrolytes. Chemical and physical stability data for a number of admixtures stored at 4 °C for up to 9 days are available from the manufacturer upon request.

From a microbiological point of view, TPN admixtures compounded in uncontrolled or unvalidated conditions should be used immediately. If not used immediately, in-use storage times and conditions prior to use are the responsibility of the user and should normally be no longer than 24 hours at 2 to 8 °C, unless mixing has taken place in controlled and validated aseptic conditions.

6.5 Nature and contents of container

AMINOVEN 5 % and 10 %:

500 ml and 1 000 ml clear glass bottles, sealed with a rubber closure and an aluminium cap, packed in an outer carton in the following package sizes:

1 x 500 ml

10 x 500 ml

1 x 1000 ml

6 x 1 000 ml

AMINOVEN 15 %:

250 ml, 500 ml and 1 000 ml clear glass bottles, sealed with a rubber closure and aluminium cap, packed in an outer carton in the following package sizes:

10 x 250 ml

10 x 500 ml

6 x 1 000 ml

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

To be used immediately after the container is opened.

For single use only.

Do not use AMINOVEN 5%, 10 % and 15 % after expiry date.

Use only clear, particle-free solutions and undamaged containers.

Discard unused solutions. Any admixture remaining after infusion must be discarded.

Due to the increased risk of microbiological contamination and incompatibilities, amino acid solutions should not be mixed with other drugs. Should it become necessary to add other nutrients, like carbohydrates, lipid emulsions, electrolytes, vitamins or trace elements to AMINOVEN 5 %, 10 % and 15 % for complete parenteral nutrition, care should be given to aseptic techniques, thorough mixing and, in particular, to compatibility.

7 HOLDER OF CERTIFICATE OF REGISTRATION

Fresenius Kabi South Africa (Pty) Limited

Stand 7, Growthpoint Business Park

162 Tonetti Street, Halfway House

Midrand, 1685

South Africa

8 REGISTRATION NUMBER(S)

AMINOVEN 5 %: A39/23/0180

AMINOVEN 10 %: A39/23/0181

AMINOVEN 15 %: A39/23/0183

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of registration: 14 September 2012

10 DATE OF REVISION OF THE TEXT

28 April 2023