

**PACKAGE LEAFLET**

## **Package leaflet: Information for the user**

### **Lipoflex plus emulsion for infusion**

**Read all of this leaflet carefully before you start using this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist or nurse.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. See section 4.

#### **What is in this leaflet**

1. What Lipoflex plus is and what it is used for
2. What you need to know before you use Lipoflex plus
3. How to use Lipoflex plus
4. Possible side effects
5. How to store Lipoflex plus
6. Contents of the pack and other information

#### **1. What Lipoflex plus is and what it is used for**

Lipoflex plus contains fluids and substances called amino acids, electrolytes and fatty acids that are essential for the body to grow or to recover. It also contains calories in the form of carbohydrates and fats.

You are given this medicine when you are unable to eat food normally. There are many situations when this might be the case, for example when you are recovering from surgery, injuries or burns, or when you are unable to absorb food from your stomach and gut.

This emulsion can be given to adults, adolescents and children over 2 years of age.

#### **2. What you need to know before you use Lipoflex plus**

##### **Do not use Lipoflex plus**

- if you are allergic to any of the active substances, to egg, peanut or soybean or to any of the other ingredients of this medicine (listed in section 6).
- This medicine must not be given to newborn infants, infants and toddlers under two years old.

Also, do not use this medicine if you suffer from any of the following:

- life-threatening blood circulation problems such as those that can occur if you are in a state of collapse or shock
- heart attack or stroke
- severely impaired blood clotting function, bleeding risk (severe coagulopathy, aggravating haemorrhagic diatheses)
- blocking of blood vessels by blood clots or fat (embolism)
- severe liver failure
- impaired bile flow (intrahepatic cholestasis)
- severe kidney failure in the absence of kidney replacement therapy
- disturbances of your body salt composition

- fluid deficit or excess water in your body
- water on your lungs (pulmonary oedema)
- severe heart failure
- certain metabolic disorders such as
  - too much lipid (fat) in the blood
  - inborn errors of amino acid metabolism
  - abnormally high blood sugar level that needs more than 6 units of insulin per hour to be controlled
  - abnormalities of metabolism that may occur after operations or injuries
  - coma of unknown origin
  - insufficient supply of oxygen to tissues
  - abnormally high acid level in the blood.

### **Warnings and precautions**

Talk to your doctor, pharmacist or nurse before using Lipoflex plus.

Please inform your doctor if:

- you have heart, liver or kidney problems
- you suffer from certain types of metabolic disorders such as diabetes, abnormal blood fat values and disorders of your body fluid and salt composition or your acid-base balance.

You will be monitored closely to detect early signs of an allergic reaction (such as fever, shivering, rash, or shortness of breath) when you receive this medicine.

Further monitoring and tests such as various examinations of blood samples will be applied to make sure that your body handles the administered foodstuffs properly.

The nursing staff may also take measures to ensure that your body's fluid and electrolyte requirements are met. In addition to this medicine you may receive further nutrients (foodstuffs) in order to fully cover your requirements.

### **Children**

This medicine must not be given to newborn infants, infants and toddlers under two years old.

### **Other medicines and Lipoflex plus**

Tell your doctor, pharmacist or nurse if you are taking, have recently taken or might take any other medicines.

Lipoflex plus can interact with some other medicines. Please tell your doctor, pharmacist or nurse if you are taking or receiving any of the following:

- insulin
- heparin
- medicines that prevent undesirable blood clotting such as warfarin or other coumarin derivatives
- medicines to promote urine flow (diuretics)
- medicines to treat high blood pressure (ACE inhibitors)
- medicines to treat high blood pressure or heart problems (angiotensin-II-receptor antagonists)
- medicines used in organ transplants such as ciclosporin and tacrolimus
- medicines to treat inflammation (corticosteroids)
- hormone preparations that affect your fluid balance (adrenocorticotrophic hormone or ACTH)

### **Pregnancy and breast-feeding**

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before taking this medicine. If you are pregnant, you will receive this medicine only if the doctor or pharmacist considers it absolutely necessary for your recovery. There is no data available about the use of Lipoflex plus in pregnant women.

Breast-feeding is not recommended for mothers on parenteral nutrition.

### **Driving and using machines**

This medicine is normally given to immobile patients, e.g. in a hospital or clinic which would exclude driving or using machines. However, the medicine itself has no effect on the ability to drive or use machines.

### **Lipoflex plus contains sodium**

This medicine contains 1150 mg sodium (main component of cooking/table salt) in each 1250 ml bag. This is equivalent to 58% of the recommended maximum daily dietary intake of sodium for an adult.

The maximum recommended daily dose of this medicinal product contains 2580 mg sodium (found in table salt). This is equivalent to 129% of the adult recommended maximum daily dietary intake for sodium.

Talk to your doctor or pharmacist if you need one or more bags daily for a prolonged period, especially if you have been advised to follow a low salt (sodium) diet.

## **3. How to use Lipoflex plus**

This medicine is administered by intravenous infusion (drip), that is, through a small tube directly into a vein. This medicine will be administered through one of your large (central) veins only.

Your doctor or pharmacist will decide how much of this medicine you need and for how long you will require treatment with this medicine.

### **Use in children**

This medicine must not be given to newborn infants, infants and toddlers under two years old.

Your doctor will decide how much of this medicine your child needs and for how long your child will require treatment with this medicine.

### **If you use more Lipoflex plus than you should**

If you have received too much of this medicine you may suffer from a so-called 'overload syndrome' and the following symptoms:

- fluid excess and electrolyte disorders
- water on your lungs (pulmonary oedema)
- loss of amino acids through the urine and disturbed amino acid balance
- vomiting, feeling sick
- shivering
- high blood sugar level
- glucose in the urine
- fluid deficit

- blood much more concentrated than normal (hyperosmolality)
- impairment or loss of consciousness due to extremely high blood sugar
- enlargement of the liver (hepatomegaly) with or without jaundice (icterus)
- enlargement of the spleen (splenomegaly)
- fat deposition in the inner organs
- abnormal values of liver function tests
- reduction of red blood cell count (anaemia)
- reduction of white blood cell count (leucopenia)
- reduction of blood platelet count (thrombocytopenia)
- increase of immature red blood cells (reticulocytosis)
- rupture of blood cells (haemolysis)
- bleeding or a tendency to bleeding
- impairment of blood coagulation (as can be seen by changes of bleeding time, coagulation time, prothrombin time etc.)
- fever
- high blood fat levels
- loss of consciousness

If any of these symptoms occur, the infusion must be stopped immediately.

If you have any further questions on the use of this medicine, ask your doctor or pharmacist.

#### **4. Possible side effects**

Like all medicines, this medicine can cause side effects, although not everybody gets them.

**The following side effects may be serious. If any of the following side effects occur, tell your doctor immediately, he will stop giving you this medicine:**

Rare (may affect up to 1 in 1,000 people):

- allergic reactions, for example skin reactions, shortness of breath, swelling of the lips, mouth, and throat, difficulty breathing

**Other side effects include:**

Uncommon (may affect up to 1 in 100 people):

- feeling sick, vomiting, loss of appetite

Rare (may affect up to 1 in 1,000 people):

- increased tendency for your blood to clot
- bluish discolouration of the skin
- shortness of breath
- headache
- flushing
- reddening of skin (erythema)
- sweating
- chills
- feeling cold
- high body temperature
- drowsiness
- pain in the chest, back, bones or lumbar region
- decrease or increase in blood pressure

Very rare (may affect up to 1 in 10,000 people):

- abnormally high blood fat or blood sugar values
- high levels of acidic substances in your blood
- Too much lipid can lead to fat overload syndrome, for more information on this please see under the heading 'If you use more Lipoflex 38/120 plus than you should' in section 3. Symptoms normally disappear when the infusion is stopped.

Not known (frequency cannot be estimated from the available data):

- reduction of white blood cell count (leucopenia)
- reduction of blood platelet count (thrombocytopenia)
- impaired bile flow (cholestasis)

### Reporting of side effects

If you get any side effects, talk to your doctor. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the Yellow Card Scheme at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) or search for MHRA Yellow Card in the Google Play or Apple App Store. By reporting side effects, you can help provide more information on the safety of this medicine.

## 5. How to store Lipoflex plus

Keep this medicine out of the sight and reach of children.

Do not store above 25 °C.

Do not freeze. If accidentally frozen, discard the bag.

Keep the bag in the protective overwrap in order to protect from light.

Do not use this medicine after the expiry date which is stated on the label. The expiry date refers to the last day of that month.

## 6. Contents of the pack and other information

### What Lipoflex plus contains

The active substances in the ready-for-use mixture are:

<i>from the top chamber (glucose solution)</i>	in 1000 ml	in 1250 ml	in 1875 ml	in 2500 ml
Glucose monohydrate	132.0 g	165.0 g	247.5 g	330.0 g
equivalent to glucose	120.0 g	150.0 g	225.0 g	300.0 g
Sodium dihydrogen phosphate dihydrate	1.872 g	2.340 g	3.510 g	4.680 g
Zinc acetate dihydrate	5.264 mg	6.580 mg	9.870 mg	13.16 mg

<i>from the middle chamber (fat emulsion)</i>	in 1000 ml	in 1250 ml	in 1875 ml	in 2500 ml
Soya-bean oil, refined	20.00 g	25.00 g	37.50 g	50.00 g
Medium-chain triglycerides	20.00 g	25.00 g	37.50 g	50.00 g

<i>from the bottom chamber (amino acid solution)</i>	in 1000 ml	in 1250 ml	in 1875 ml	in 2500 ml
Isoleucine	2.256 g	2.820 g	4.230 g	5.640 g
Leucine	3.008 g	3.760 g	5.640 g	7.520 g
Lysine hydrochloride equivalent to lysine	2.728 g 2.184 g	3.410 g 2.729 g	5.115 g 4.094 g	6.820 g 5.459 g
Methionine	1.880 g	2.350 g	3.525 g	4.700 g
Phenylalanine	3.368 g	4.210 g	6.315 g	8.420 g
Threonine	1.744 g	2.180 g	3.270 g	4.360 g
Tryptophan	0.544 g	0.680 g	1.020 g	1.360 g
Valine	2.496 g	3.120 g	4.680 g	6.240 g
Arginine	2.592 g	3.240 g	4.860 g	6.480 g
Histidine hydrochloride monohydrate equivalent to histidine	1.624 g 1.202 g	2.030 g 1.503 g	3.045 g 2.255 g	4.060 g 3.005 g
Alanine	4.656 g	5.820 g	8.730 g	11.64 g
Aspartic acid	1.440 g	1.800 g	2.700 g	3.600 g
Glutamic acid	3.368 g	4.210 g	6.315 g	8.420 g
Glycine	1.584 g	1.980 g	2.970 g	3.960 g
Proline	3.264 g	4.080 g	6.120 g	8.160 g
Serine	2.880 g	3.600 g	5.400 g	7.200 g
Sodium hydroxide	0.781 g	0.976 g	1.464 g	1.952 g
Sodium chloride	0.402 g	0.503 g	0.755 g	1.006 g
Sodium acetate trihydrate	0.222 g	0.277 g	0.416 g	0.554 g
Potassium acetate	2.747 g	3.434 g	5.151 g	6.868 g
Magnesium acetate tetrahydrate	0.686 g	0.858 g	1.287 g	1.716 g
Calcium chloride dihydrate	0.470 g	0.588 g	0.882 g	1.176 g

<b>Electrolytes</b>	in 1000 ml	in 1250 ml	in 1875 ml	in 2500 ml
Sodium	40 mmol	50 mmol	75 mmol	100 mmol
Potassium	28 mmol	35 mmol	52.5 mmol	70 mmol
Magnesium	3.2 mmol	4.0 mmol	6.0 mmol	8.0 mmol
Calcium	3.2 mmol	4.0 mmol	6.0 mmol	8.0 mmol
Zinc	0.024 mmol	0.03 mmol	0.045 mmol	0.06 mmol
Chloride	36 mmol	45 mmol	67.5 mmol	90 mmol
Acetate	36 mmol	45 mmol	67.5 mmol	90 mmol
Phosphate	12 mmol	15 mmol	22.5 mmol	30 mmol

Amino acid content	38 g	48 g	72 g	96 g
Nitrogen content	5.4 g	6.8 g	10.2 g	13.7 g
Carbohydrate content	120 g	150 g	225 g	300 g
Lipid content	40 g	50 g	75 g	100 g

Energy in the form of lipids	1590 kJ (380 kcal)	1990 kJ (475 kcal)	2985 kJ (715 kcal)	3980 kJ (950 kcal)
Energy in the form of carbohydrates	2010 kJ (480 kcal)	2510 kJ (600 kcal)	3765 kJ (900 kcal)	5020 kJ (1200 kcal)
Energy in the form of amino acids	635 kJ (150 kcal)	800 kJ (190 kcal)	1200 kJ (285 kcal)	1600 kJ (380 kcal)
Non-protein energy	3600 kJ (860 kcal)	4500 kJ (1075 kcal)	6750 kJ (1615 kcal)	9000 kJ (2150 kcal)
Total energy	4235 kJ (1010 kcal)	5300 kJ (1265 kcal)	7950 kJ (1900 kcal)	10600 kJ (2530 kcal)

Osmolality	1540 mOsm /kg	1540 mOsm /kg	1540 mOsm/ kg	1540 mOsm /kg
Theoretical osmolarity	1215 mOsm /l	1215 mOsm /l	1215 mOsm/l	1215 mOsm /l
pH	5.0 - 6.0	5.0 - 6.0	5.0 - 6.0	5.0 - 6.0

The other ingredients are citric acid monohydrate (for pH adjustment), egg phospholipids for injection, glycerol, sodium oleate, all-rac-alpha-tocopherol and water for injections.

### What Lipoflex plus looks like and contents of the pack

The ready-to-use product is an emulsion for infusion, i.e. it is administered through a small tube into a vein.

Lipoflex plus is supplied in flexible multichamber bags containing:

- 1250 ml (500 ml of amino acids solution + 250 ml of fat emulsion + 500 ml of glucose solution)
- 1875 ml (750 ml of amino acids solution + 375 ml of fat emulsion + 750 ml of glucose solution)
- 2500 ml (1000 ml of amino acids solution + 500 ml of fat emulsion + 1000 ml of glucose solution)

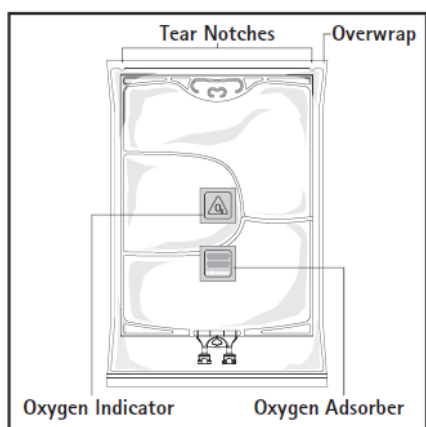


Figure A

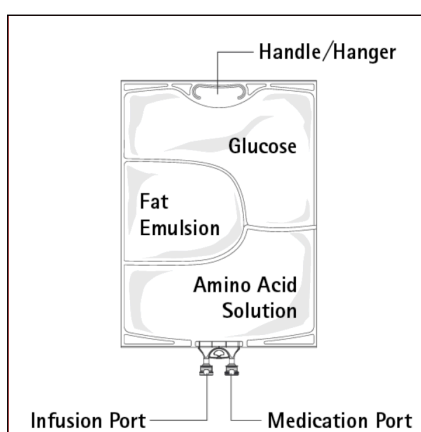


Figure B

Figure A: The multichamber bag is packed in a protective overwrap. An oxygen absorber and an oxygen indicator are placed between the bag and the overwrap; the oxygen absorber sachet is made of inert material and contains iron hydroxide.

Figure B: The top chamber contains a glucose solution, the middle chamber contains a fat emulsion, and the bottom chamber contains an amino acid solution.



The glucose and the amino acid solutions are clear and colourless or straw-coloured. The fat emulsion is milky-white.

The top chamber and the middle chamber can be connected with the bottom chamber by opening the intermediate seams (peel seams).

The design of the bag permits mixing of the amino acids, glucose, lipids and electrolytes in a single chamber. Opening the peel seams results in sterile mixing to form an emulsion.

The different container sizes are presented in cartons containing five bags.

Pack sizes: 5 x 1250 ml, 5 x 1875 ml and 5 x 2500 ml

Not all pack sizes may be marketed.

### **Marketing Authorisation Holder and Manufacturer**

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### **This medicine is authorised in the Member States of the European Economic Area and in the United Kingdom (GB and NI) under the following names:**

Austria	Nutriflex Lipid plus B.Braun Emulsion zur Infusion
Belgium	Nutriflex Lipid plus, 38 g/l Amino+ 120 g/l G, emulsie voor infusie
Denmark	Lipoflex plus
Finland	Nutriflex Lipid 38/120/40 infuusioneste, emulsio
France	MEDNUTRIFLEX E, émulsion pour perfusion
Germany	NuTRIflex Lipid plus novo Emulsion zur Infusion
Iceland	Nutriflex Lipid 38/120 plus innrennslislyf, fleyti
Italy	LIPOFLEX AA38/G120 Emulsione per infusione
Luxembourg	NuTRIflex Lipid plus novo Emulsion zur Infusion
Netherlands	Nutriflex Lipid plus, 38 g/l Amino + 120 g/l G, emulsie voor infusie
Norway	Lipoflex plus infusjonsvæske, emulsjon
Poland	Lipoflex plus
Romania	NuTRIflex Lipid plus novo, emulsie perfuzabilă
Spain	Lipoflex plus emulsión para perfusión EFG
Sweden	Nutriflex Lipid 38/120/40 infusionsvätska, emulsion
United Kingdom (GB and NI)	Lipoflex plus emulsion for infusion

**This leaflet was last revised in 09/2023**

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The following information is intended for healthcare professionals only:

No special requirements for disposal.

Parenteral nutrition products should be visually inspected for damage, discolouration and emulsion instability before use.

Do not use bags which are damaged. Overwrap, primary bag and the peel seams between the chambers should be intact. Only use if the amino acid and glucose solutions are clear and colourless up to straw-coloured and the lipid emulsion is homogenous with milky white appearance. Do not use if the solutions contain particulate matter.

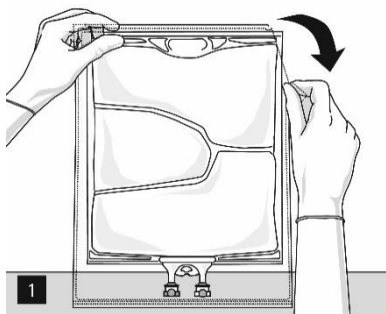
After mixing the three chambers, do not use if the emulsion shows discolouration or signs of phase separation (oil drops, oil layer). Stop the infusion immediately in case of discolouration of the emulsion or signs of phase separation.

Before opening the overwrap, check the colour of the oxygen indicator (see Figure A). Do not use if the oxygen indicator turned pink. Use only if the oxygen indicator is yellow.

#### Preparation of the mixed emulsion

Strict adherence to aseptic handling principles must be complied with.

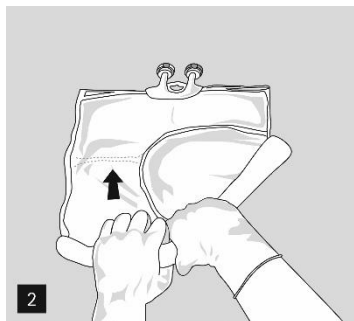
To open: Tear overwrap starting from the tear notches (Fig. 1). Remove the bag from its protective overwrap. Discard overwrap, oxygen indicator, and oxygen absorber.



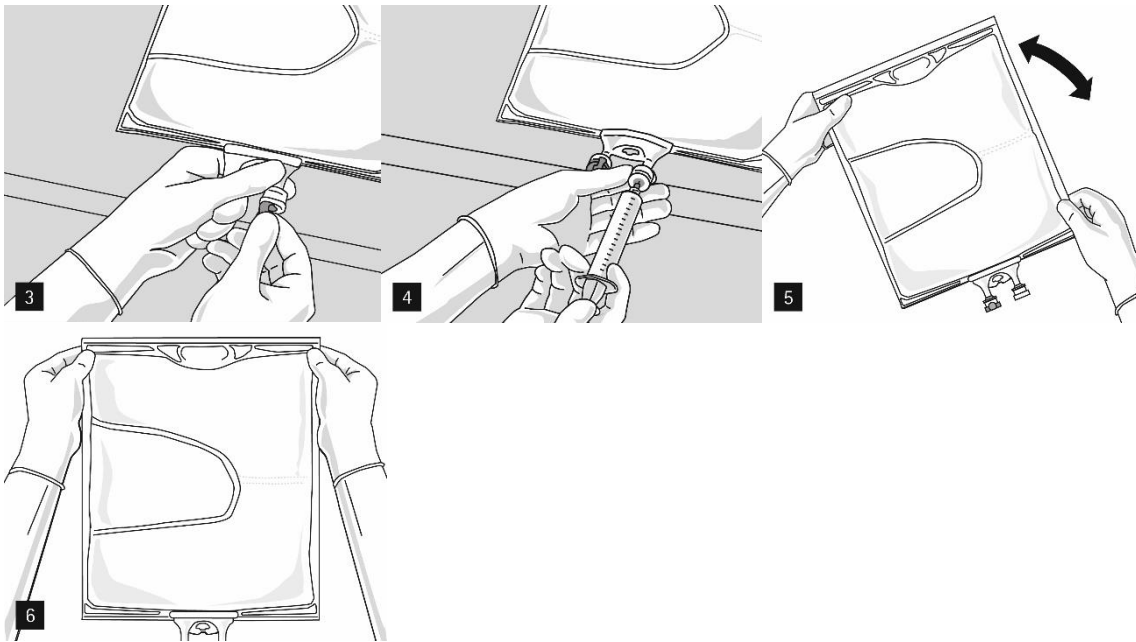
Visually inspect the primary bag for leaks. Leaky bags must be discarded, since the sterility cannot be guaranteed.

#### *Mixing of the bag and additions of additives*

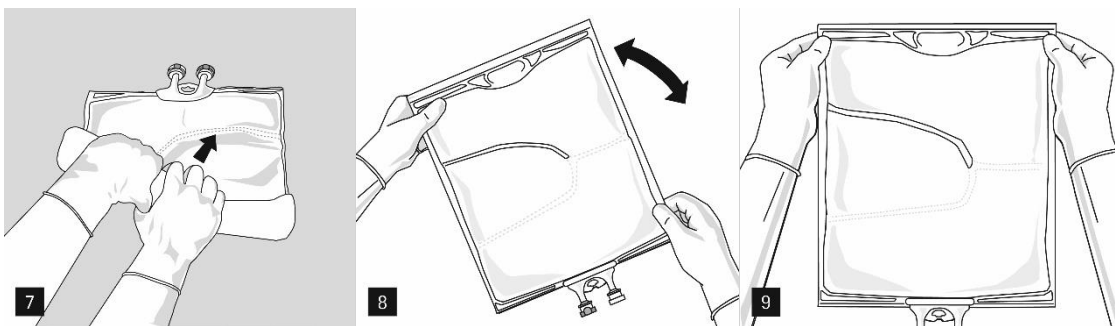
To open and mix the chambers sequentially, roll the bag with both hands, starting first by opening the peel seam that separates the top chamber (glucose) and the bottom chamber (amino acids) (Fig. 2).



After removing the aluminium seal (Fig. 3) one can add compatible water-soluble additives via the medication port (Fig. 4) to the clear aqueous solutions. Mix the contents thoroughly (Fig. 5) and visually inspect the mixture for precipitations (Fig. 6). Only clear solution must be used.



Then continue applying pressure so that the peel seam separating the middle chamber (lipids) and the bottom chamber opens (Fig. 7). The mixture is a milky white homogenous oil-in-water emulsion. After all chambers are mixed one can add compatible additives via the medication port (Fig. 4). Mix the contents thoroughly (Fig. 8) and visually inspect the mixture (Fig. 9).



Compatibility data for different additives (e.g. electrolytes, trace elements, vitamins) and the corresponding shelf life of such admixtures can be provided on demand by the manufacturer.

#### Preparation for infusion

The emulsion should always be brought to room temperature prior to infusion.

Remove the aluminium foil (Fig. 10) from the infusion port and attach the infusion set (Fig. 11). Use a non-vented infusion set or close the air vent when using a vented set. Hang the bag on an infusion stand (Fig. 12) and carry out infusion using the standard technique.



For single use only. Container and unused residues must be discarded after use.

Do not reconnect partially used containers.

If filters are used they must be lipid-permeable (pore size  $\geq 1.2 \mu\text{m}$ ).

*Shelf life after removing the protective overwrap and after mixing of contents of the bag*

Chemical and physicochemical in-use stability of the mixture of amino acids, glucose and fat was demonstrated for 7 days at 2-8 °C and additional 2 days at 25 °C.

*Shelf life after admixture of compatible additives*

From a microbiological point of view, the product should be used immediately after admixture of additives. If not used immediately after admixture of additives, in-use storage times and conditions prior to use are the responsibility of the user.

The emulsion is to be used immediately after opening of the container.

The recommended duration of infusion for a parenteral nutrition bag is maximum 24 h.

The medicinal product must not be mixed with other medicinal products for which compatibility has not been documented.

The medicinal product should not be given simultaneously with blood in the same infusion set due to the risk of pseudoagglutination.