

Sodium chloride	9 g
Electrolytes:	
Na <sup>+</sup>	154 mmol/l
Cl <sup>-</sup>	154 mmol/l
Theoretical osmolarity:	308 mosm/l
Titratable acidity:	< 1.0 mmol NaOH/l
pH:	4.0 – 5.5

**Other ingredients:**

Sodium hydroxide, Hydrochloric acid, Water for injections

**What Voluven 6% looks like and contents of the pack**

Voluven 6% is a sterile, clear to slightly opalescent solution, colourless to slightly yellow. It is contained in:

- flexible bags made either of polyolefin (**freeflex**) or plasticized PVC bag
- or in a glass bottle
- in a Polyethylene bottle (KabiPac)

Polyolefin bag (**freeflex**) with overwrap:

1, 5, 10, 20, 30, 35, 40 x 250 ml; 1, 5, 10, 15, 20 x 500 ml

Plasticized PVC bag with overwrap:

1, 5, 25 x 250 ml; 1, 5, 15 x 500 ml

Colourless type II glass bottle with halobutyl rubber closure and aluminium cap:

1, 10 x 250 ml; 1, 10 x 500 ml

Polyethylene bottle (KabiPac):

1, 10, 20, 30 x 250 ml; 1, 10, 20 x 500 ml

Not all pack sizes may be marketed.

**Marketing Authorisation Holder and Manufacturer**

Marketing Authorisation Holder:

Fresenius Kabi Limited

Cestrian Court, Eastgate Way, Manor Park,

Runcorn, Cheshire, WA7 1NT, UK

Manufacturers:

Fresenius Kabi Deutschland GmbH

61346 Bad Homburg v.d.H.

Germany

Fresenius Kabi Polska Sp. z o.o.

Wytwórnia Płynów Infuzyjnych

ul. Sienkiewicza 25

99-300 Kutno, Poland

**This medicinal product is authorised in the Member States of the EEA under the following names:**

Austria:	Voluven (HES 130/0,4) 6% – Infusionslösung
Belgium:	Voluven, 6% (60 mg/ml) oplossing voor infusie/solution pour perfusion/Infusionslösung
Denmark:	Voluven
Finland:	Voluven 60 mg/ml infuusioneste, liuos
Germany:	Voluven Fresenius 6% Infusionslösung
Greece:	Voluven 6% Διάλυμα για έγχυση
Ireland:	Voluven 6% Solution for Infusion
Iceland:	Voluven 6% Innrennsliislyf, lausn
Italy:	Voluven Soluzione per infusione
Luxembourg:	Voluven Fresenius 6%
Norway:	Voluven 60 mg/ml infusionsvæske, oppløsning
Portugal:	Voluven Fresenius 6%
Sweden:	Voluven, 60 mg/ml infusionsvätska, lösning
The Netherlands:	Voluven, 6% (60 mg/ml) oplossing voor infusie
UK:	Voluven 6% Solution for Infusion

**This leaflet was last revised in August 2017.**

The following information is intended for healthcare professionals only:

**Use of HES should be restricted to the initial phase of volume resuscitation with a maximum time interval of 24 h.**

The maximum daily dose is 30 ml/kg for Voluven 6%.

The lowest possible effective dose should be applied. Treatment should be guided by continuous haemodynamic monitoring so that the infusion is stopped as soon as appropriate haemodynamic goals have been achieved. The maximum recommended daily dose must not be exceeded.

The first 10–20 ml should be infused slowly and under careful monitoring of the patient so that any anaphylactic/anaphylactoid reaction can be detected as early as possible.

If an anaphylactoid/anaphylactic reaction occurs the infusion should be discontinued immediately and appropriate emergency medical treatment initiated.

The duration of treatment depends on:

- the extent of the low blood volume
- blood pressure
- the dilution of blood and its components (platelets, red blood cells etc.).

**Use in children**

There is only limited experience of the use of this medicine in children. Therefore, it is not recommended to use this medicine in children.

For single use only.

To be used immediately after the bottle or bag is opened.

Any unused solution should be discarded.

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

Remove the overwrap from the Polyolefine (**freeflex**) bag and PVC bag prior to use.

**FRESENIUS  
KABI**
**PACKAGE LEAFLET: INFORMATION FOR THE USER**

# Voluven® 6%

## solution for infusion

Hydroxyethyl starch (HES 130/0.4) in isotonic sodium chloride solution

▼ This medicine is subject to additional monitoring. This will allow quick identification of new safety information. You can help by reporting any side effects you may get. See the end of section 4 for how to report side effects.

**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 or pharmacist.
- 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 of the side effects, talk to your doctor or pharmacist. This includes any possible side effects not listed in this leaflet. See section 4.

**What is in this leaflet:**

- What Voluven 6% is and what it is used for
- What you need to know before you take Voluven 6%
- How to take Voluven 6%
- Possible side effects
- How to store Voluven 6%
- Contents of the pack and other information

**1. What Voluven 6% is and what it is used for**

Voluven 6% is a plasma volume substitute that is used to restore the blood volume when you have lost blood when other products called crystalloids are not considered sufficient alone.

**2. What you need to know before you take Voluven 6%****Do not use Voluven 6% if you:**

- are allergic to any of the active substances or any of the other ingredients of this medicine
- suffer from serious generalised infection (sepsis)
- suffer from burn injury
- have kidney impairment or receive dialysis
- suffer from bleeding in the brain (intracranial or cerebral bleeding)
- are critically ill (e.g. you need to stay in an intensive care unit)
- have too much fluid in your body and you have been told that you have a condition known as hyperhydration
- have fluid in the lungs (pulmonary oedema)
- are dehydrated
- have been told that you have a severe increase of sodium or chloride in your blood
- have severely impaired liver function
- have severe heart failure
- have severe problems with your blood clotting
- have received an organ transplant

**Warnings and precautions**

It is important to tell your doctor if you have:

- impairment of your liver function
- problems with your heart or circulation
- blood clotting (coagulation) disorders
- problems with your kidneys

Because of the *risk of allergic* (anaphylactic/anaphylactoid) *reactions*, you will be monitored closely to detect early signs of an allergic reaction when you receive this medicine.

Surgery and trauma:

Your doctor will consider carefully if this medicine is suitable for you.

Your doctor will adjust the dose of Voluvan 6% carefully in order to prevent fluid overload. This will be done especially if you have problems with your lungs or with your heart or circulation. The nursing staff will also take measures to observe your body's fluid balance, blood salt level, and kidney function. If necessary you may receive additional salts.

In addition it will be ensured that you receive enough fluids.

Voluvan 6% is contraindicated if you have kidney impairment or kidney injury requiring dialysis.

*If impaired kidney function occurs during therapy:*

If the doctor detects first signs of kidney impairment he/she will stop giving you this medicine. In addition your doctor may need to monitor your kidney function for up to 90 days.

If you are given Voluvan 6% repeatedly your doctor will monitor the ability of your blood to clot, bleeding time and other functions. In case of an impairment of the ability of your blood to clot, your doctor will stop giving you this medicine.

If you are undergoing open heart surgery and you are on a heart-lung machine to assist in pumping your blood during the surgery, the administration of this solution is not recommended.

**Children**

Data are limited in children, therefore it is recommended not to use HES products in this population.

**Other medicines and Voluvan 6%**

Tell your doctor or pharmacist if you are taking or have recently taken any other medicines, including medicines obtained without a prescription. To date, Voluvan 6% is not known to have any interactions with other medicines.

**Voluvan 6% with food and drink**

Voluvan 6% is not known to have any negative effect when given at the same time as food or drink.

**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 for advice before taking this medicine.

If you are pregnant your doctor will only give you Voluvan 6% after having weighed the benefits for you versus the potential risk to the baby.

If you are breast-feeding your doctor will decide on whether to continue/discontinue breast-feeding or to continue/discontinue therapy with Voluvan 6% taking into account the benefit of breast-feeding to your child and the benefit of Voluvan 6% therapy to you.

There are no data from the use of the product in pregnant (except caesarean section, see below) and breast-feeding women. Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, embryo/foetal development, parturition or postnatal development. No evidence of teratogenicity was seen.

There are limited clinical study data available from the use of a single dose of Voluvan 6% in pregnant women undergoing caesarean section with spinal anesthesia. No negative influence of Voluvan 6% on patient safety could be detected; a negative influence on the neonate could also not be detected.

It is unknown whether hydroxyethyl starch is excreted in human breast milk. The excretion of hydroxyethyl starch in milk has not been studied in animals.

**Driving and using machines**

After receiving Voluvan 6% your ability to drive a car or operate machinery will not be affected.

**3. How to use Voluvan 6%**

Voluvan 6% will be given by, or under the direct supervision of your physician, who will closely control the amount of Voluvan 6% given to you.

*Mode of administration*

You will receive this medicine by infusion into a vein (intravenous drip). The speed of infusion, along with the amount of solution infused, will depend on your specific requirements, the disease for which the product is being used, and by reference to maximum daily dose.

*Dosage*

Your doctor will decide on the correct dose for you to receive.

**Your doctor will use the lowest possible effective dose and will not infuse Voluvan 6% for more than 24 hours.**

The maximum daily dose is 30 ml/kg for Voluvan 6%.

*Use in children*

There is only limited experience of the use of this medicine in children. Therefore it is not recommended to use this medicine in children.

**If you have received more Voluvan® 6% than you should**

As with all volume substitutes, if you receive too much of Voluvan 6% your circulatory system can get overloaded, which can result e.g. in water retention in your lungs (lung oedema).

Your doctor will ensure that you receive the right amount of Voluvan 6%. However, different people need different doses, and if the dose does prove too much for you, your doctor may stop Voluvan 6% immediately and, if necessary, administer a medicine that removes water from the body (diuretic).

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

**4. Possible side effects**

Like all medicines, Voluvan 6% can cause side effects, although not everybody gets them.

Very common:	may affect more than 1 in 10 people
Common:	may affect up to 1 in 10 people
Uncommon:	may affect up to 1 in 100 people
Rare:	may affect up to 1 in 1,000 people
Very rare:	may affect up to 1 in 10,000 people
Not known:	frequency cannot be estimated from the available data

Blood and lymphatic system disorders:

Rare (may affect up to 1 in 1,000 people): After administration of hydroxyethyl starch, disturbances of blood clotting beyond dilution can occur depending on the dose.

Immune system disorders:

Rare (may affect up to 1 in 1,000 people): Medicinal products containing hydroxyethyl starch may lead to severe allergic reactions (reddening of the skin, mild influenza like symptoms, low or high heart rate, swelling of the throat and difficult breathing, fluid in the lungs not caused by heart problems).

Skin and subcutaneous tissue disorders:

Common (may affect up to 1 in 10 people): Itching is a known side effect of hydroxyethyl starches when used over long periods of time and at high doses.

Investigations:

Common (may affect up to 1 in 10 people): The level of the enzyme serum amylase can rise during administration of hydroxyethyl starch and can interfere with the diagnosis of inflammation of the pancreas (pancreatitis). However, in this case the elevated serum amylase level must not be considered diagnostic of pancreatitis.

Other effects are associated with the dilution of the blood, which occurs at high dosages, such as prolonged blood clotting time.

Frequency not known (cannot be estimated from the available data)

- Kidney injury
- Liver injury

**Reporting of side effects**

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly:

For UK: via the Yellow Card Scheme at:

[www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard)

For IE: HPRA Pharmacovigilance

Earlsfort Terrace

IRL-Dublin 2

Tel: +353 16764971

Fax: +353 1 6762517

Website: [www.hpra.ie](http://www.hpra.ie)

email: [medsafety@hpra.ie](mailto:medsafety@hpra.ie)

By reporting side effects you can help provide more information on the safety of this medicine.

**5. How to store Voluvan 6%**

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

Do not freeze.

Do not use Voluvan 6% after the expiry date (MM YYYY) which is stated on the label. The expiry date refers to the last day of that month.

Your doctor or nurse will ensure that the solution is clear, free from particles, the container undamaged and the overwrap is removed from the polyolefin (**freeflex**) bag before use.

The solution should be used immediately after opening, and any solution remaining after treatment should be discarded. For single use only.

Do not throw away any medicines via wastewater or household waste. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

**6. Contents of the pack and other information****What Voluvan 6% contains**

1000 ml solution for infusion contain:

*Active substances:*

Poly(O-2-hydroxyethyl)starch (Ph. Eur.)

60 g

– Molar substitution: 0.38 – 0.45

– Mean molecular weight: 130,000 Da

(manufactured from waxy maize starch)