

## AUSTRALIAN PRODUCT INFORMATION

### Alburex<sup>®</sup> 5 AU

#### (Human albumin) – Solution for intravenous infusion

## 1 NAME OF THE MEDICINE

Human albumin

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Human Albumin 5% (50 g/L)

Alburex<sup>®</sup> 5 AU is a solution containing 50 g/L of total protein of which at least 96% is human albumin. Alburex<sup>®</sup> 5 AU is mildly hypooncotic to normal plasma. It has a nominal osmolality of 258 mOsm/kg, is isotonic and the pH is 6.7–7.3.

Alburex<sup>®</sup> 5 AU is manufactured from human plasma collected in Australia by Australian Red Cross Lifeblood.

One litre of Alburex<sup>®</sup> 5 AU also contains 4 mmol of sodium acetyltryptophanate and 4 mmol of sodium octanoate. Sodium chloride is added to give a sodium content of 140 mmol/L.

Alburex<sup>®</sup> 5 AU also contains Water for Injections.

## 3 PHARMACEUTICAL FORM

Solution for intravenous infusion.

Alburex<sup>®</sup> 5 AU is a clear, slightly viscous liquid; it is almost colourless, yellow, amber or green.

## 4 CLINICAL PARTICULARS

### 4.1 THERAPEUTIC INDICATIONS

Restoration and maintenance of circulating blood volume where volume deficiency has been demonstrated and use of a colloid is appropriate.

The choice of albumin rather than artificial colloid will depend on the clinical situation of the individual patient.

### 4.2 DOSE AND METHOD OF ADMINISTRATION

The concentration of the albumin preparation, dosage and the infusion rate should be adjusted to the patient's individual requirements.

## **Dosage**

The dose required depends on the size of the patient, the severity of trauma or illness and on continuing fluid and protein losses. Measures of adequacy of circulating volume and not plasma albumin levels should be used to determine the dose required. Infusion rate and volume need to be adapted according to clinical conditions, most notably in the elderly or in the paediatric population.

### ***Paediatric population***

The dosage in children and adolescents (0–18 years) should be adjusted to the patient's individual requirements.

## **Monitoring advice**

If Alburex<sup>®</sup> 5 AU is to be administered, haemodynamic performance should be monitored regularly. This may include:

- arterial blood pressure and pulse rate
- central venous pressure
- pulmonary artery wedge pressure
- urine output
- electrolyte
- haematocrit/haemoglobin.

## **Method of administration**

NOTE: Alburex<sup>®</sup> 5 AU contains no antimicrobial preservative. It must, therefore, be used immediately after opening the vial. Use in one patient on one occasion only. Any unused solution should be discarded appropriately.

Alburex<sup>®</sup> 5 AU is a clear, slightly viscous liquid; it is almost colourless, yellow, amber or green. Do not use solutions which are cloudy or have deposits. This may indicate that the protein is unstable or that the solution has become contaminated. The vial should be returned unopened to Australian Red Cross Lifeblood.

Alburex<sup>®</sup> 5 AU should be administered by the intravenous route only. Alburex<sup>®</sup> 5 AU is packaged in a glass vial that must be vented during use.

Alburex<sup>®</sup> 5 AU must not be diluted with water for injections as this may cause haemolysis in recipients.

The infusion rate should be adjusted according to the individual circumstances and the indication.

In plasma exchange the infusion rate should be adjusted to the rate of removal.

If large volumes are administered, the product should be warmed to room or body temperature before use. Do not use if the solution has been frozen.

### **4.3 CONTRAINDICATIONS**

Hypersensitivity to albumin preparations or to any of the excipients.

### **4.4 SPECIAL WARNINGS AND PRECAUTIONS FOR USE**

Suspicion of allergic or anaphylactic type reactions requires immediate discontinuation of the infusion. In case of shock, standard medical treatment for shock should be implemented.

Albumin should be used with caution in conditions where hypervolaemia and its consequences or haemodilution could represent a special risk for the patient. Examples of such conditions are:

- decompensated cardiac insufficiency
- hypertension
- oesophageal varices
- pulmonary oedema
- haemorrhagic diathesis
- severe anaemia
- renal and post-renal anuria.

When albumin is given, the electrolyte status of the patient should be monitored (see section 4.2 Dose and method of administration) and appropriate steps taken to restore or maintain the electrolyte balance.

Alburex<sup>®</sup> 5 AU must not be diluted with water for injections as this may cause haemolysis in recipients.

If comparatively large volumes are to be replaced, controls of coagulation and haematocrit are necessary. Care must be taken to ensure adequate substitution of other blood constituents (coagulation factors, electrolytes, platelets and erythrocytes).

Hypervolaemia may occur if the dosage and infusion rate are not adjusted to the patient's circulatory situation. At the first clinical signs of cardiovascular overload (headache,

dyspnoea, jugular vein congestion), or increased blood pressure, raised venous pressure and pulmonary oedema, the infusion is to be stopped immediately.

Alburex<sup>®</sup> 5 AU contains approximately 3.2 mg sodium per mL of solution (140 mmol/L). This should be noted when the product is used in patients requiring sodium restriction.

### **Pathogen safety**

This product is made from human plasma. Products made from human plasma may contain infectious agents such as viruses and theoretically Creutzfeldt-Jakob Disease (CJD) agents, that can cause disease. The risk that such products will transmit an infectious agent has been reduced by screening plasma donors for prior exposure to certain infectious agents and by testing for the presence of certain viral markers.

In addition, the Alburex<sup>®</sup> 5 AU manufacturing process includes pasteurisation (60°C for 10 hours) and multiple steps involving ethanol fractionation and depth filtration in the presence of filter aids which contribute to the reduction of pathogens should they be present. The current process and procedures applied in the manufacture of this product are effective against enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV), and the non-enveloped virus, hepatitis A virus (HAV) and human parvovirus B19.

Despite these measures, such products may still potentially transmit disease. There is also the possibility that other known or unknown infectious agents may be present in such products.

Vaccination for patients in receipt of medicinal products from human plasma should be considered where appropriate.

It is strongly recommended that every time that Alburex<sup>®</sup> 5 AU is administered to a patient, the name and batch number of the product are recorded in order to maintain a link between the patient and the batch of the product.

### **Use in the elderly**

There have been no specific clinical studies of Alburex<sup>®</sup> 5 AU in the elderly.

### **Paediatric use**

There have been no specific clinical studies of Alburex<sup>®</sup> 5 AU in children.

### **Effects on laboratory tests**

Human albumin is an endogenous plasma protein so no specific effects on laboratory tests are anticipated.

#### **4.5 INTERACTIONS WITH OTHER MEDICINES AND OTHER FORMS OF INTERACTIONS**

No specific interactions of human albumin with other medicinal products are known.

#### **4.6 FERTILITY, PREGNANCY AND LACTATION**

##### **Effects on fertility**

No studies examining the effect of Alburex<sup>®</sup> 5 AU on fertility have been conducted.

##### **Use in pregnancy**

Reproductive toxicity studies with Alburex<sup>®</sup> 5 AU in animals have not been conducted.

The use of Alburex<sup>®</sup> 5 AU in human pregnancy has not been established in controlled clinical trials; therefore, use in pregnant women only if benefits outweigh risk.

##### **Use in lactation**

Like endogenous serum albumin, Alburex<sup>®</sup> 5 AU may be excreted in milk. No safety information is available.

#### **4.7 EFFECTS ON ABILITY TO DRIVE AND USE MACHINES**

No effects on the ability to drive and use machines have been observed.

#### **4.8 ADVERSE EFFECTS (UNDESIRABLE EFFECTS)**

##### **Summary of the safety profile**

Mild reactions with human albumin solutions such as flush, urticaria, fever and nausea occur rarely. These reactions normally disappear rapidly when the infusion rate is slowed down or the infusion is stopped. Very rarely, severe allergic reactions such as anaphylactic shock may occur. In these cases, the infusion should be stopped immediately and an appropriate treatment should be initiated.

##### **Tabulated list of adverse reactions**

**Table 1** presents the adverse reactions which have been observed with CSL Behring human albumin solutions during the post-marketing phase, according to the MedDRA System Organ Class and Preferred Term level. As the post-marketing reporting of adverse reactions is voluntary and from a population of uncertain size, it is not possible to reliably estimate the frequency of these reactions. Hence the frequency category ‘not known (cannot be estimated from the available data)’ is used.

**Table 1: List of adverse reactions**

<b>MedDRA System Organ Class</b>	<b>Adverse Reaction</b>	<b>Frequency</b>
Immune system disorders	Hypersensitivity reactions (including anaphylaxis and shock)	Not known
Gastrointestinal disorders	Nausea	Not known
Skin and subcutaneous tissue disorders	Flush, urticaria	Not known
General disorders and administration site conditions	Fever	Not known

For safety information with respect to transmissible agents, see section 4.4 Special warnings and precautions for use -Pathogen safety.

### **Reporting suspected adverse effects**

Reporting suspected adverse reactions after registration 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 at [www.tga.gov.au/reporting-problems](http://www.tga.gov.au/reporting-problems).

## **4.9 OVERDOSE**

Hypervolaemia may occur if the dosage and infusion rate are too high. At the first clinical signs of cardiovascular overload (headache, dyspnoea, jugular vein congestion) or increased blood pressure, raised central venous pressure and pulmonary oedema, the infusion should be stopped immediately and the patient's haemodynamic parameters carefully monitored.

For information on the management of overdose, contact the Poisons Information Centre on 13 11 26 (Australia).

## **5 PHARMACOLOGICAL PROPERTIES**

### **5.1 PHARMACODYNAMIC PROPERTIES**

#### **Mechanism of action**

Human albumin accounts quantitatively for more than half of the total protein in the plasma and represents about 10% of the protein synthesis activity of the liver.

Physico-chemical data: human albumin 50 g/L is mildly hypooncotic to normal plasma.

The most important physiological functions of albumin results from its contribution to oncotic pressure of the blood and transport function. Albumin stabilises circulating blood volume and is a carrier of hormones, enzymes, medicinal products and toxins.

## **Clinical trials**

There have been no company sponsored clinical trials conducted using Alburex<sup>®</sup> 5 AU.

## **5.2 PHARMACOKINETIC PROPERTIES**

### **Distribution**

Under normal conditions, the total exchangeable albumin pool is 4–5 g/kg body weight, of which 40–45% is present intravascularly and 55–60% is in the extravascular space. Increased capillary permeability will alter albumin kinetics and abnormal distribution may occur in conditions such as severe burns or septic shock.

### **Excretion**

Under normal conditions, the average half-life of albumin is about 19 days. The balance between synthesis and breakdown is normally achieved by feedback regulation. Elimination is predominantly intracellular and due to lysosome proteases.

In healthy subjects, less than 10% of infused albumin leaves the intravascular compartment during the first 2 hours following infusion. There is considerable individual variation in the effect on plasma volume. In some patients the plasma volume can remain increased for some hours. However, in critically ill patients, albumin can leak out of the vascular space in substantial amounts at an unpredictable rate.

## **5.3 PRECLINICAL SAFETY DATA**

### **Genotoxicity**

No genotoxicity studies have been conducted with Alburex<sup>®</sup> 5 AU.

### **Carcinogenicity**

No carcinogenicity studies have been conducted with Alburex<sup>®</sup> 5 AU.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 LIST OF EXCIPIENTS**

Refer to Section 2 Qualitative and quantitative composition.

### **6.2 INCOMPATIBILITIES**

Alburex<sup>®</sup> 5 AU must not be mixed with any other medicinal products, including whole blood, packed red cells, or other albumins.

### **6.3 SHELF LIFE**

In Australia, information on the shelf life can be found on the public summary of the Australian Register of Therapeutic Goods (ARTG). The expiry date can be found on the packaging.

### **6.4 SPECIAL PRECAUTIONS FOR STORAGE**

Store below 30°C (Do not freeze). Protect from light. Do not use after the expiry date.

### **6.5 NATURE AND CONTENTS OF CONTAINER**

Alburex® 5 AU is issued in glass vials in two sizes:

One vial of 250 mL contains 12.5 g of human albumin.

One vial of 500 mL contains 25 g of human albumin.

### **6.6 SPECIAL PRECAUTIONS FOR DISPOSAL**

In Australia, any unused medicine or waste material should be disposed of in accordance with local requirements.

### **6.7 PHYSICOCHEMICAL PROPERTIES**

#### **Chemical structure**

Not applicable

#### **CAS Number**

9048-49-1

## **7 MEDICINE SCHEDULE (POISONS STANDARD)**

Unscheduled

## **8 SPONSOR**

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## **Distributed by**

Australian Red Cross Lifeblood

## **9 DATE OF FIRST APPROVAL**

7 July 2020

## **10 DATE OF REVISION**

16 August 2024

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### **SUMMARY TABLE OF CHANGES**

<b>Section Changed</b>	<b>Summary of new information</b>
<b>6.4</b>	Storage amended from 'Store below 25°C' to 'Store below 30°C'.