

SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE MEDICINAL PRODUCT

Sodium chloride 0.9% Imuna

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

1000 mL solution for infusion contain:

Sodium chloride	9.0 g
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Electrolytes

Sodium	154 mmol/L
Chloride	154 mmol/L

For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Solution for infusion

Clear, colourless, solution free of mechanical impurities

Theoretical osmolarity 308 mOsm/L

Titration acidity (pH 7.4) < 0.3 mmol/L

pH 4.5 – 7.0

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Short- term intravascular volume substitution.

Hypotonic dehydration or isotonic dehydration.

Vehicle solution for supplementary medication.

Fluid and electrolyte replacement, hypochloremic alkalosis and chloride losses.

4.2 Posology and method of administration

Dosage

The dosage guideline for adults:

Average dose: 1000 ml per day.

Flow rate: Up to 180 drops/min, corresponding to 550 ml/h.

Maximum recommended dosage: 40 ml per KG body weight and per day, not more than 2000 ml per day.

Dosage is dependent upon the age, weight and clinical condition of the patient as well as laboratory determination.

Route of administration

I.V.

When administering a solution packed in a flexible container via a pressure infusion, all air must be removed from the container and infusion system prior to administering the infusion.

4.3 Contraindications

Sodium chloride 0.9 % Imuna may not be used in the event of

- hyperhydration

- severe hypernatraemia.
- severe hyperchloraemia

4.4 Special warnings and precautions for use

Sodium chloride 0.9 % Imuna should be used with caution only in

- hypokalaemia
- hypernatraemia
- hyperchloraemia
- Conditions requiring a restricted intake of sodium, such as heart failure, generalised oedema, pulmonary oedema, hypertension, eclampsia and severe renal failure.

In order to prevent osmotic demyelination syndrome from developing, serum sodium concentrations should not exceed 9 mmol/L/day. As a general recommendation, a rate of correction of 4 to 6 mmol/L/day is considered appropriate in the majority of cases, depending on the patient's conditions and associated risk factors.

Clinical monitoring should include checks of the serum ionogram, water balance and the acid-base balance.

If the rapid infusion of 0.9 % NaCl is required, the cardiovascular and respiratory status should be monitored closely.

Please note: if this solution is being used as a carrier solution, the safety information on the additive provided by the respective manufacturer is to be taken into account.

Children and adolescents

Premature or newborn babies may develop excess sodium levels due to immature kidney function.

Therefore, repeated sodium chloride infusions should only be administered after serum sodium levels have been determined.

4.5 Interactions with other medicinal products and other forms of interaction

Medicinal products leading to sodium retention

The simultaneous use of sodium-retaining medicinal products (e.g. corticosteroids, non-steroidal anti-inflammatory drugs) can lead to oedema.

4.6 Fertility, pregnancy and lactation

Pregnancy

There are no data from the use of Sodium chloride 0.9 % Imuna in pregnant women. Similarly, animal studies are insufficient with respect to reproductive toxicity (see section 5.3).

Given that the concentrations of sodium and chloride are similar to those found in the human body, no harmful effects are to be expected when the product is used correctly.

Sodium chloride 0.9 % Imuna may therefore be used as stated.

Caution must be exercised, however, in the event of eclampsia (see section 4.4).

Lactation

Sodium chloride is excreted in human milk. Given that the concentrations of sodium and chloride are similar to those found in the human body, no harmful effects are to be expected when the product is used correctly.

Sodium chloride 0.9 % Imuna may be used during lactation if required.

Fertility

No data are available.

4.7 Effects on ability to drive and use machines

Sodium chloride 0.9 % Imuna has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

None known if used correctly.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Any suspected adverse events should be reported to the Ministry of Health according to the National Regulation by using an online form
<https://sideeffects.health.gov.il>

4.9 Overdose

Symptoms

An overdose of Sodium chloride 0.9 % Imuna can lead to hypernatraemia, hyperchloraemia, hyperhydration, acute volume overload, oedema, serum hyperosmolality and hyperchloraemic acidosis.

In patients with chronic hyponatraemia, a rapid rise in the serum sodium concentration can lead to osmotic demyelination syndrome (see section 4.4).

The first signs of overdose may be thirst, confusion, sweating, headache, weakness, drowsiness or tachycardia. Hypertension or hypotension, respiratory failure or coma may occur in the event of severe hypernatraemia.

Management

Depending on the severity of the symptoms, immediate stopping of the infusion and administration of diuretics whilst constantly monitoring serum electrolytes, and correction of electrolyte and acid-base imbalances.

Dialysis may be required in the event of major overdosage or oliguria or anuria.

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: solutions affecting electrolyte balance, electrolytes, ATC code: B05B B01

Mechanism of action

Sodium is the primary cation in the extracellular space and, together with various anions, regulates the size of the latter. Sodium is one of the major mediators of bioelectric processes within the body.

Chloride is the main osmotically active anion in the extracellular space.

A rise in the serum chloride concentration leads to increased renal bicarbonate excretion. An acidifying effect is therefore induced through the administration of chloride.

Pharmacodynamic properties

The sodium content and fluid metabolism in the body are closely connected. Each deviation in plasma sodium from the physiological concentration simultaneously affects the body's fluid status.

Independently of serum osmolality, a rise in the sodium content within the body also means a drop in free body water.

An 0.9 % solution of sodium chloride has the same osmolality as plasma. Administration of this solution leads primarily to filling of the interstitial space, which represents roughly 2/3 of the whole extracellular space. Only 1/3 of the volume administered remains in the intravascular space. The haemodynamic effect of the solution is therefore only short-lasting.

5.2 Pharmacokinetic properties

Absorption

As the solution is administered as an intravenous infusion, the bioavailability of the solution is 100 %.

Distribution

The body's total sodium content is approximately 80 mmol/kg (5600 mmol), of which 300 mmol can be found in intracellular fluid in a concentration of 2 mmol/L and 2500 mmol of which are bound in bones. Approximately 2 mol can be found in extracellular fluid in a concentration of 135-145 mmol/L (3.1-3.3 g/L).

The total chloride content in the body is approximately 33 mmol/kg bodyweight. Serum chloride ranges from 98 to 108 mmol/L.

Biotransformation

Although sodium and chloride are absorbed, distributed and excreted, they are not metabolised in the strict sense.

The kidneys are the main regulators of sodium and fluid balance. Together with hormonal control mechanisms (renin-angiotensin-aldosterone system, antidiuretic hormone) and with the hypothetical natriuretic hormone, they are chiefly responsible for keeping the volume of the extracellular space constant and for its fluid composition.

Chloride is exchanged for hydrogen carbonate in the tubule system and, in this way, is involved in the regulation of the acid-base balance.

Elimination

Sodium and chloride are excreted via sweat, urine and the gastrointestinal tract.

5.3 Preclinical safety data

No preclinical studies have been conducted with Sodium chloride 0.9 % Imuna .

Given that sodium and chloride ions are major elements of the human body, Sodium chloride 0.9 % Imuna is not expected to have any toxic effects when used correctly.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Water for injections

6.2 Incompatibilities

When mixing with other medicinal products, potential incompatibilities must be taken into account.

Physiological saline is commonly used as a primary diluent and vehicle for parenterally administered medicinal products. The prescribing physician is responsible for determining the compatibility of any added medicinal product with Sodium Chloride 0.9 % Imuna. The physician must visually inspect the solution for any change in colour and/or the presence of precipitates, undissolved complexes or crystal formation. The instructions for use of the added medicinal product must be carefully reviewed.

Prior to addition, it must be verified that the medicinal product is soluble and stable in water within the applicable pH range.

After addition of a compatible medicinal product to Sodium Chloride 0.9 % Imuna, the resulting solution must be used immediately.

Medicinal products with known incompatibilities must not be used.

6.3 Shelf life

The expiry date of the product is indicated on the packaging materials.

6.4 Special precautions for storage

Store below 25°C. Do not freeze.

Keep in the outer package in order to protect from light.

Take the primary infusion bag out of the outer bag (either the individual dust cover or the plastic box liner) only immediately before use. The infusion bag maintains the medicinal product sterility.

6.5 Nature and contents of container

A polyolefin and polypropylene bag with an infusion port and an injection port.

Pack sizes:

1 x 100 ml, 1 x 250 ml, 1 x 500 ml, 1 x 1,000 ml (individually)
40,50,60 x 100 ml, 18,30 x 250 ml, 10,20 x 500 ml, 10 x 1,000 ml (in a cardboard box)

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

Use only if the solution is clear, free from visible particles and the package is undamaged. Administer immediately after connection to the infusion set.

Plastic bags must not be used in series connections. Such use may lead to an air embolism caused by residual air being drawn from the primary container before administration of fluid from the secondary container is completed. Pressurising intravenous solutions contained in flexible plastic containers in order to increase flow rates may cause air embolism if the residual air in the container has not been

completely evacuated prior to administration.

The solution must be administered using an aseptic technique with sterile equipment. To prevent air from entering the system, the infusion set must be primed with the solution.

Additional medicinal products may be added via the intravenous line before or during infusion. When adding another medicinal product to the solution, isotonicity must be checked prior to parenteral administration. Thorough and careful aseptic mixing of all added medicinal products must be ensured. Solutions containing added medicinal products must be used immediately and must not be stored for later use.

For single use only.

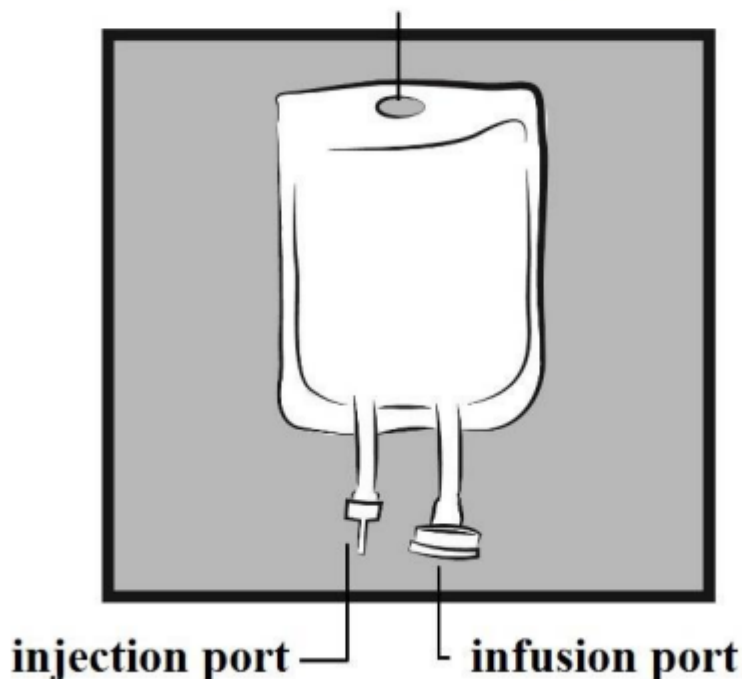
Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

Do not reconnect partially used bags.

Take the primary infusion bag out of the outer bag (either the individual dust cover or the plastic box liner) only immediately before use. The infusion bag maintains the medicinal product sterility.

INSTRUCTIONS FOR HANDLING THE BAG

Figure 1: Bag
hanger



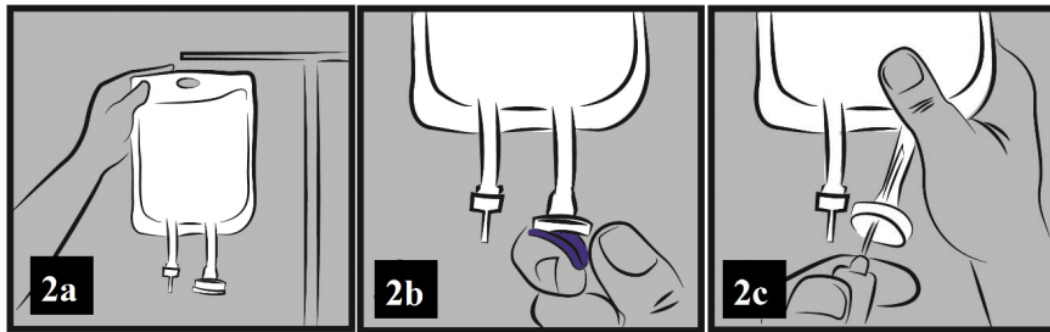
1. INSPECTION PRIOR TO ADMINISTRATION

- a) Check the bag for leakage. If the integrity of the bag is compromised, discard the solution, as its sterility may be impaired.
- b) Visually inspect the solution to ensure that it complies with the characteristics specified in the Summary of Product Characteristics. If it does not, the solution should be discarded. Use sterile materials for preparation and administration.

2. PREPARATION FOR ADMINISTRATION

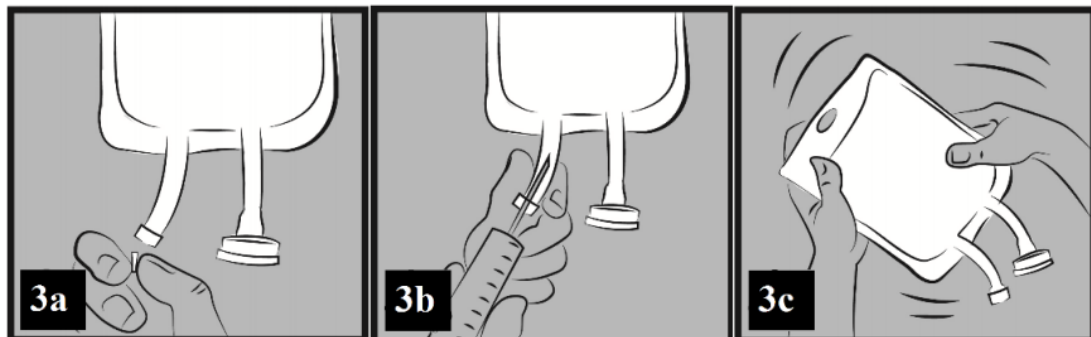
- a) Hang the bag on an infusion stand or place it on a horizontal surface (Figure 2a).

- b) Remove the blue plastic cap from the outlet (infusion) port (Figure 2b).
- c) The rubber stopper of the port is sterile and does not require disinfection. Insert the spike of the infusion set into the infusion port (Figure 2c).
- d) Proceed in accordance with the instructions supplied with the infusion set (priming of the set and solution administration).



3. ADDITION OF A MEDICINAL PRODUCT TO THE SOLUTION

- a) Remove the transparent cap from the injection port. The rubber stopper of the port is sterile, and does not require disinfection (Figure 3a).
- b) Puncture the injection port and add the medicinal product. Recommended needle size: 19 G (1.10 mm) to 22 G (0.70 mm) (Figure 3b).
- c) Thoroughly mix the contents of the bag (Figure 3c).



Warning: Follow healthcare waste disposal instructions applicable to infusion bags, taking into account the added medicinal product.

The following maximum volumes of other medicinal products may be added to the bag beyond the original volume:

100 ml bag	max. 70 ml
250 ml bag	max. 75 ml
500 ml bag	max. 115 ml
1,000 ml bag	max. 130 ml

7. MANUFACTURER

Imuna Pharm a.s., Jarková 269/17, 082 22 Šarišské Michaľany, Slovak Republic

8. MARKETING AUTHORISATION HOLDER

A.L. Medi-Market Ltd., 3 Hakatif St., Emek Hefer Industrial Park, 3877701, Israel

9. MARKETING AUTHORISATION NUMBER

167-57-36009-00

Revised in August 2026.