

Baxter

BICART SELECT CITRATE SYSTEM



WHY HAS 1 MMOL/L CITRIC ACID BEEN PROPOSED AS AN ALTERNATIVE FOR ACETATE?

Citric acid has been shown to be an:



ANTI-COAGULANT

Citric fluid induces a significant intradialytic increase in aPTT (activated thromboplastin time)¹



ANTI-INFLAMMATORY

Citric fluid reduces inflammation parameters such as CRP, fibrinogen and IL6²



ANTI-OXIDANT

Acetate-based dialysate increases oxidative stress and may induce other pro-inflammatory stimuli, citrate dialysate does not induce this activation³

CITRIC ACID DIALYSIS FLUID ADVANTAGES

1

IMPROVED HEMODYNAMIC STABILITY

Citrate containing fluids may offer a greater hemodynamic stability with significantly fewer episodes of arterial hypotension⁴

2

IMPROVED CONTROL OF ACID-BASE BALANCE

Dialysis with citrate achieves a better control of post-dialysis acid-base balance by decreasing / avoiding post-alkalemia compared to acetate⁴

3

DECREASED THROMBOGENICITY

Citrate has a local anticoagulant effect inside the dialyzer allowing reduced heparin dosing while maintaining extracorporeal patency⁵ and optimizing dialyzer clearances^{1,2,6}

4

IMPROVED BIOCOMPATIBILITY

Citrate concentrate has been shown to reduce inflammation markers such as pentraxin-3,¹ CRP⁶ and IL6.² *In vitro* studies show that citrate is a promising substitute for acetate for a more biocompatible dialysis, most likely resulting in less adverse effects for the patients⁷

CITRIC ACID DIALYSIS FLUID. EFFECT OF CITRATE ON CALCIUM BALANCE

Calcium mass balance is easily maintained during treatment



Citrate binds ionized calcium and causes a change in the total calcium mass transfer compared to dialysis fluids without citrate, unless compensated for.



A kinetic model developed by Baxter research shows that with 1 mmol/L of citrate in the dialysis fluid an additional 0.15 mmol/L of calcium is required to achieve a mass balance within the dialyzer that is equivalent to dialysis fluid without any citrate.⁸ Clinical data supports these theoretical results.^{1,9,10}



Baxter citrate concentrates offer augmented calcium concentration, making it easy to maintain the proper calcium mass balance

ONE STEP TO A BETTER WORKING ENVIRONMENT

1. Hold and open the container by flipping the cap open. Close the cap upon disposal
2. Secure connection to open container automatically without spillage
3. Ready to use immediately

The **SelectBag Citrate** container has several innovative features that will be helpful in dialysis treatment.

- Ready to use immediately, all the solution staff members need is in a one-liter container
- Easy and secure connection helps to avoid spillage and the holder latch automatically perforates the membrane when the **SelectBag Citrate** container is attached to the holder¹¹
- Adhesive transfer label on the **SelectBag Citrate** container can be removed and attached to the patient journal for easy reference

The **SelectBag Citrate** container makes preparing the dialysis solution a convenient and easy process compared to the canister. The small and lightweight design allows for the storage of multiple formulations.

Ease of handling and simplicity was designed so more time can be spent with patients.

The entire handling procedure is designed to be as quick and simple as possible. So you can make the most of your time with patients.

- Individualizing dialysis fluid composition to meet the needs of the patient
- Helps ensure delivery of electrolytes and buffer as prescribed
- The lightweight design allows for easy handling, storage and logistics



BICART SELECT CITRATE SYSTEM SPECIFICATIONS

| SPECIFICATIONS | SELECTBAG CITRATE CONTAINER | BICART SELECT COMBI-PAK |
|---|---|--|
| Intended use | The SelectBag Citrate product is intended to be used as citric acid based concentrate together with the BiCart cartridge and the SelectCart cartridge. The SelectBag citrate product is intended to be used for on-line preparation of hemodialysis, hemodiafiltration and hemofiltration fluids on compatible Gambro dialysis systems. ¹¹ | The BiCart and SelectCart products are intended for preparation of hemodialysis solutions and, when used on compatible Gambro dialysis systems, hemodiafiltration and hemofiltration substitution fluids. The BiCart and SelectCart products must always be used together with a suitable A-component concentrate. ¹¹ |
| Content | 1 L of acid-based concentrate to be diluted | BiCart cartridge: 720g of NaHCO ₃ SelectCart cartridge: 1200 g NaCl |
| Dilution Ratio | 1:200 | |
| Volume of Dialysis fluids when mixed | 200 L | 190 L at Na ⁺ /HCO ₃ setting 140/34 |
| Duration time at Q _d of 500 ml/min | 6H40 | BiCart cartridge: 6H45 SelectCart cartridge: 6H15 |
| Container Material | Low density polyethylene (LDPE) | Polypropylene (PP) |
| Packaging | Cardboard box with 6 bags | Cardboard box with 8 cartridges |
| Box size | H 320 mm x L 258 mm x W 182 mm | H 298 mm x L 198 mm x W 322 mm |
| Box weight | Approximately 7 kg | Approximately 9 kg |
| Quantity per pallet | 300 bags | 384 Cartridges |
| Shelf life | 24 months | 24 months |
| Storage condition | Store between +4°C and +30°C | Store below +40°C |

| SelectBag Citrate | | Contribution from A to the dialysis fluid | | | | |
|-------------------|--------------|---|----------------------------|----------------------------|-------------------|----------------|
| PRODUCT CODE | PRODUCT NAME | K ⁺ mmol/l | CA ²⁺ mmol/l | MG ²⁺ mmol/l | CITRATE mmol/l | GLUCOSE g/l |
| 115227 | CX140G | 1.00 | 1.40 | 0.50 | 1 | 1 |
| 114683 | CX150G | 1.00 | 1.50 | 0.50 | 1 | 1 |
| 114845 | CX165G | 1.00 | 1.65 | 0.50 | 1 | 1 |
| 114684 | CX175G | 1.00 | 1.75 | 0.50 | 1 | 1 |
| 115228 | CX240G | 2.00 | 1.40 | 0.50 | 1 | 1 |
| 114685 | CX250G | 2.00 | 1.50 | 0.50 | 1 | 1 |
| 114846 | CX265G | 2.00 | 1.65 | 0.50 | 1 | 1 |
| 114686 | CX2550G | 2.50 | 1.50 | 0.50 | 1 | 1 |
| 114694 | CX2565G | 2.50 | 1.65 | 0.50 | 1 | 1 |
| 114687 | CX260G | 2.00 | 1.60 | 0.50 | 1 | 1 |
| 114688 | CX275G | 2.00 | 1.75 | 0.50 | 1 | 1 |
| 115229 | CX340G | 3.00 | 1.40 | 0.50 | 1 | 1 |
| 114689 | CX350G | 3.00 | 1.50 | 0.50 | 1 | 1 |
| 114693 | CX365G | 3.00 | 1.65 | 0.50 | 1 | 1 |

| SelectBag Citrate | | Contribution from A to the dialysis fluid | | | | |
|-------------------|--------------|---|----------------------------|----------------------------|-------------------|----------------|
| PRODUCT CODE | PRODUCT NAME | K ⁺ mmol/l | CA ²⁺ mmol/l | MG ²⁺ mmol/l | CITRATE mmol/l | GLUCOSE g/l |
| 114690 | CX375G | 3.00 | 1.75 | 0.50 | 1 | 1 |
| 115230 | CX440G | 4.00 | 1.40 | 0.50 | 1 | 1 |
| 114691 | CX450G | 4.00 | 1.50 | 0.50 | 1 | 1 |
| 114848 | CX465G | 4.00 | 1.65 | 0.50 | 1 | 1 |
| 114692 | CX475G | 4.00 | 1.75 | 0.50 | 1 | 1 |
| 114695 | CX150 | 1.00 | 1.50 | 0.50 | 1 | 0 |
| 114850 | CX165 | 1.00 | 1.65 | 0.50 | 1 | 0 |
| 115362 | CX240 | 2.00 | 1.40 | 0.50 | 1 | 0 |
| 114696 | CX250 | 2.00 | 1.50 | 0.50 | 1 | 0 |
| 114851 | CX265 | 2.00 | 1.65 | 0.50 | 1 | 0 |
| 114697 | CX275 | 2.00 | 1.75 | 0.50 | 1 | 0 |
| 114698 | CX350 | 3.00 | 1.50 | 0.50 | 1 | 0 |
| 114852 | CX365 | 3.00 | 1.65 | 0.50 | 1 | 0 |
| 114699 | CX375 | 3.00 | 1.75 | 0.50 | 1 | 0 |

BiCart Select combi-pak

| PRODUCT CODE | Contribution from A to the dialysis fluid | | |
|------------------------|---|--------------------|-----------------------|
| | SODIUM mmol/l | CHLORIDE mmol/l | BICARBONATE mmol/l |
| 955847 EEA / 955848 WW | 140 | 108-111.5 | 34 |

For safe and proper use of the device, please refer to the Instructions for Use

1. Grundstrom G, et al. *BMC Nephrol* 2013;14:216
2. Dellepiane S, *Sci Report*. 2019;9:10622.
3. Perez-Garcia R, et al. *Nefrologia*. 2017;37(6):630-637.
4. de Sequera P, et al. *Nefrologia*. 2019;39(4):424-433.
5. Meijers B, et al. *Nephrol Dial Transplant*. 2017;32:707-714.
6. Molina Nunez M, et al. *Blood Purif*. 2015;39:181-187.
7. Huang S, et al. *Clin Kidney*. 2015;8:31-37.
8. Nilsson A, et al. *Nephrol Dial Transplant*. 2013;28(Suppl1):i207.
9. Steckiph D, et al. *Nephrol Dial Transplant*. 2013;28(Suppl 1):MP409.
10. Teatini U, et al. *Nephrol Dial Transplant*. 2017;32(Suppl 3):iii78-iii79.
11. Package leaflet.

The BiCart Select system concentrate is compatible with Baxter dialysis machines.

CE 2797

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