



CITRASATE™

CITRIC ACID CONCENTRATE
WITH A REDUCED AMOUNT OF ACETIC ACID

Manufactured in Spain



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Citrasate is an acid concentrate for dialysis that contains 0,8 mmol/l of citric acid and 0,3 mmol/l of acetic acid, instead of the traditional 3 mmol/l of acetic acid contained in standard acid concentrates.

The anticoagulant properties of citric acid, combined with a lower volume of acetic acid, improve the biocompatibility and dialysis adequacy while reducing the use of heparin.¹⁻³

Citrasate contains citrate which has the following advantages:

- Reduction of heparin by up to 50%^{1,2}
- Decreasing inflammatory and oxidative stress marker⁴⁻⁶
- Increasing the hemodynamic stability of hypertensive patients⁷
- Reduction of long bleeding times for patients with high risk of bleeding^{2,8}
- Suitable for high-flux HD and online HDF in either pre- or post-dilution^{5,9}

Citrasate is beneficial for any dialysis patient but highly recommended for the following:

- Pre- or post-operative patients
- Patients with cholesterol embolism
- Patients with gastrointestinal lesions
- Patients with hemorrhagic retinopathies because of diabetes
- Patients with heparin-induced side effects (e.g. pruritus or osteoporosis)
- Patients with acetate-induced side effects



1. Ahrenholz P et al. Heparin reduction and improved compatibility using citrate enriched dialysate. EDTA Congress, Paris 2012, Abstract and poster FP 434 BIOCOMPATIBLE Reduce heparin
2. Kossmann RJ et al. Fifty-five percent heparin reduction is safe with Citrasate dialysate in chronic dialysis Patients. ASN Renal week Meeting, 2006, Abstract No. 708 Reduce heparin
3. Sands JJ et al. Effects of citrate acid (Citrasate) on Heparin N Requirements and hemodialysis Adequacy: A multicenter, prospective noninferiority trial. Blood. Purif. 2012;33:199-204
4. Maruyama Y. et al. Inflammation and oxidative stress in ESRD - the role of myeloperoxidase. J. Nephrol 2004, Suppl.8:72-76
5. Winkler RE et al. Reduction of Heparin and Oxidative Potential by means of Citrasate in High-Flux Dialysis (HFD) and Online Hemodiafiltration (oHDF) in Pre- and Post-dilution. in "Hemodialysis" edited by Hiromichi Suzuki, 2012, Verlag In Tech Rijeka (im Druck)
6. Bunia J, R. Ziebig, H. Wolf, P. Ahrenholz: Reduction of Heparin and oxidative stress using Citrate enriched dialysate in High-Flux-Dialysis. ERA-EDTA Congress Istanbul 2013, Poster/ Abstract MP 391
7. Gabutti L et al. Citrate vs. Acetate-based dialysate in bicarbonate haemodialysis: consequences on haemodynamics, coagulation, acid-base status and electrolytes. BMC Nephrology 2009; 10:471-2369/10/7
8. Weiss W, J. Bunia, H. Wolf, P. Ahrenholz: Decrease of Inflammation and bleeding times in chronic dialysis patients by long-term use of citrate-enriched dialysate. ERA-EDTA Congress Madrid 2017, Abstract and Poster SP681
9. Ahrenholz P et al. Heparin reduction and improved compatibility using citrate enriched dialysate. EDTA Congress, Paris 2012, Abstract and poster FP 434



Portfolio

Ready-to-use liquid citric acid concentrates intended for use with bicarbonate concentrate.
The standard mixing ratio is 1:44.

Formula	Na ⁺ mmol/l	Ca ²⁺ mmol/l	Mg ²⁺ mmol/l	K ⁺ mmol/l	Cl ⁻ mmol/l	CH ₃ COO ⁻ mmol/l	HCO ₃ ⁻ mmol/l	Glucose g/l	C ₆ H ₅ O ₇ ³⁻ mmol/l
306-C	139,3	1,25	0,475	1,5	103,14	0,30	38,41	1,5	0,8
307-C	139,3	1,75	0,475	1,5	104,14	0,30	38,41	1,5	0,8
308-C	139,3	1,50	0,475	1,5	103,64	0,30	38,41	1,0	0,8
310-C	139,3	1,50	0,500	1,0	103,19	0,30	38,41	1,0	0,8
313-C	140,3	1,50	0,500	1,5	108,50	0,30	34,60	1,0	0,8
314-C	140,3	1,25	0,500	1,5	108,00	0,30	34,60	1,0	0,8
316-C	140,3	0,63	0,250	1,5	102,44	0,30	38,41	1,0	0,8
318-C	140,3	1,75	0,500	2,0	109,50	0,30	34,60	1,5	0,8
319-C	139,3	1,75	0,475	3,0	105,64	0,30	38,41	1,5	0,8
320-C	139,3	1,25	0,500	3,0	104,69	0,30	38,41	1,5	0,8
321-C	140,3	1,75	0,500	2,0	109,50	0,30	34,60	1,0	0,8
323-C	140,3	1,50	0,500	2,0	109,00	0,30	34,60	1,0	0,8
324-C	140,3	1,25	0,500	2,0	108,50	0,30	34,60	1,0	0,8
326-C	139,3	1,50	0,475	2,5	104,64	0,30	38,41	1,5	0,8
327-C	140,3	1,50	0,500	3,0	110,00	0,30	34,60	1,0	0,8
330-C	140,3	1,75	0,500	3,0	110,50	0,30	34,60	1,0	0,8
340-C	140,3	1,75	1,000	2,0	110,50	0,30	34,60	1,0	0,8
341-C	140,3	1,75	0,750	2,0	110,00	0,30	34,60	1,0	0,8
342-C	139,75	1,65	0,500	2,0	106,3	0,30	37,04	1,0	0,8
343-C	139,75	1,65	0,500	3,0	107,3	0,30	37,04	1,0	0,8

Not all products are registered and approved for sale in all countries or regions. Indications of use may also vary by country and region. Please contact your Nipro representative for product availability and information.

Packaging details

Product name	Packaging type	Nipro code	Volume (L)	Units per box	Units per pallet
NIPROBAG Citrasate	Bags	BSOL45-*C4LBX	3,8	3	144
		BSOL45-*C5LBX	4,7	2	128
NIPROSOL Citrasate	Stackable canisters	SOL45-*C4L	3,9	N/A	132
		SOL45-*C5L	5	N/A	132
		SOL45-*C11L	10,5	N/A	60
	Canisters in a box	SOL45-*C4LBX	3,9	2	128
		SOL45-*C5LBX	5	2	128
	Big box stackable canisters	SOL45-*C4LBB	3,9	96	96
		SOL45-*C5LBB	5	96	96
NIPROTANK D Citrasate	Octabin - Bottom connector	CSOL45-*C500LB	500	N/A	1
	Octabin - Top connector	CSOL45-*C300LT	300	N/A	1
		CSOL45-*C500LT	500	N/A	1
		CSOL45-*C600LT	600	N/A	1

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Nipro Renal Care is a global market leader with over 5 decades providing renal solutions for dialysis and dialysis-related treatment. We specialize in developing dialysis machines, water treatment systems, and a comprehensive portfolio of disposable medical equipment.

In order to address the needs of patients, healthcare professionals, and procurement managers alike, Nipro Renal Care is driven by innovation and patient safety to offer the highest quality products that optimize time, effort, and costs.

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