

# Composition of crystalloids compared to plasma

|                                            | mmol/l          |                |                  |                  |                 |                   |         |           | Osmolarity* |
|--------------------------------------------|-----------------|----------------|------------------|------------------|-----------------|-------------------|---------|-----------|-------------|
|                                            | Cations         |                |                  |                  | Anions          |                   |         |           |             |
|                                            | Na <sup>+</sup> | K <sup>+</sup> | Ca <sup>2+</sup> | Mg <sup>2+</sup> | Cl <sup>-</sup> | Acetate           | Lactate | Gluconate | (mOsmol/L)  |
| 0.9% NaCl <sup>1</sup><br>pH 5,8           | 154             | -              | -                | -                | 154             | -                 | -       | -         | 308         |
| Ringer's<br>Acetate <sup>2</sup><br>pH 5,5 | 130             | 4.0            | 4.0              | 2.0              | 110             | 30                | -       | -         | 277         |
| Plasmalyte <sup>3</sup><br>pH 7.4          | 140<br>↑        | 5.0            | 0<br>↑           | 3.0              | 98<br>↑         | 27<br>↑           | -       | 23<br>↑   | 295<br>↑    |
| Plasma <sup>4,5</sup><br>pH 7,4            | 136-145         | 3.5 – 5.0      | 4.4 - 5.2        | 1.6-2.4          | 98-106          | Bicarbonate 21-30 |         |           | 280-300     |

Physiological levels  
of sodium and chloride

No calcium,  
compatible with blood

Dual bicarbonate precursors:  
acetate and gluconate

Physiological osmolarity

\* Calculated osmolarity