

## PBS, Earle's and Hanks' balanced salts

The different buffer solutions of Biochrom AG at a glance:

- Dulbecco's Phosphate Buffered Saline (PBS) – solution or powder
- Hanks' salts solution: Hanks' Balanced Salt Solution (HBSS) – solution or powder
- Earle's salts solution: Earle's Balanced Salt Solution (EBSS) – solution

Product	Cat. No.	Unit
<b>PBS with Ca<sup>2+</sup>, Mg<sup>2+</sup></b> Storage temperature: RT (room temperature)*	L 1815	500 ml
<b>PBS without Ca<sup>2+</sup>, Mg<sup>2+</sup></b> Storage temperature: RT	L 1825 L 1820	500 ml 1000 ml
<b>10x-PBS without Ca<sup>2+</sup>, Mg<sup>2+</sup></b> Storage temperature: RT	L 1835	500 ml
<b>PBS powder without Ca<sup>2+</sup>, Mg<sup>2+</sup></b> Storage temperature: RT	L 182-01 L 182-05 L 182-10 L 182-50	1 l 5 l 10 l 50 l
<b>PBS without Ca<sup>2+</sup>, Mg<sup>2+</sup>, not sterile</b> Storage temperature: RT	L 1825-5000	5 l
<b>EBSS with 2.2 g/l NaHCO<sub>3</sub></b> Storage temperature: RT	L 1915	500 ml
On request, <b>EBSS</b> is also available as a dry chemical at a standard price. The minimum production quantity is 500 l. The filling can optionally result in batch sizes of 10 or 50 l.		
<b>HBSS with phenol red</b> with 0.35 g/l NaHCO <sub>3</sub> Storage temperature: RT	L 2015	500 ml
<b>HBSS without phenol red</b> with 0.35 g/l NaHCO <sub>3</sub> Storage temperature: RT	L 2035	500 ml
<b>HBSS without Ca<sup>2+</sup>, Mg<sup>2+</sup>, without phenol red</b> with 0.35 g/l NaHCO <sub>3</sub> Storage temperature: RT	L 2045	500 ml
<b>HBSS without Ca<sup>2+</sup>, Mg<sup>2+</sup>, with phenol red</b> with 0.35 g/l NaHCO <sub>3</sub> Storage temperature: RT	L 2055	500 ml
<b>HBSS powder with phenol red</b> without NaHCO <sub>3</sub> Storage temperature: RT	L 201-01 L 201-05 L 201-10 L 201-50	1 l 5 l 10 l 50 l

\* On low temperatures spontaneous crystallization of Ca phosphate and Mg phosphate may occur.

## Formulation

Tab. 39: Composition of the different buffer solutions

Substance	Dulbecco (for DPBS) (mg/l)	Earle's salts (for EBSS) (mg/l)	Hanks' salts (for HBSS) (mg/l)
NaCl	8000	6800	8000
KCl	200	400	400
Na <sub>2</sub> HPO <sub>4</sub>	1150	-	48
NaH <sub>2</sub> PO <sub>4</sub> ·H <sub>2</sub> O	-	140	-
KH <sub>2</sub> PO <sub>4</sub>	200	-	60
MgCl <sub>2</sub> ·6H <sub>2</sub> O	100	-	-*
MgSO <sub>4</sub> ·7H <sub>2</sub> O	-	200	200*
CaCl <sub>2</sub>	100	200	140
Glucose	-	1000	1000
Phenol red	-	10	10
NaHCO <sub>3</sub>	-	2200	350

\* In the original formulation, 100 mg/l MgCl<sub>2</sub>·6H<sub>2</sub>O and 100 mg/l MgSO<sub>4</sub>·7H<sub>2</sub>O are indicated.

### References:

1. Earle, W.R. et al., *J. Nat. Cancer Inst.* **4**, 165 [1943]
2. Hanks, J. H. and R.E. Wallace, *Proc. Soc. Exp. Biol. Med.* **71**, 196 [1949]
3. Dulbecco, R. and M. Vogt, *J. Exp. Med.* **99**, 167 [1954]