



# Essential Buffers

## For Cell Culture and Beyond

*In vitro* experiments rely on more than just cells and media: buffer systems such as PBS, HBSS, and HEPES are foundational for maintaining physiological conditions. Yet, their role is frequently underestimated. Subtle inconsistencies in pH, osmolarity, or ion composition can affect cell viability, membrane integrity, signaling, and assay outcomes. In downstream processing, buffers play a critical role in sample stability, protein integrity, and purification efficiency.

Capricorn Scientific provides a reliable solution.

Our sterile-filtered, ready-to-use buffer formulations are manufactured under strict quality control to ensure lot-to-lot consistency, physiological compatibility, and optimal performance across a broad spectrum of cell types and bioprocessing applications.

| BUFFER TYPE                                 | APPLICATIONS                                                                                                                                      | PURPOSE                                                                                                                                                                                                           |
|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Phosphate Buffered Saline (PBS)</b>      | <ul style="list-style-type: none"> <li>» Cell washing</li> <li>» Sample dilution</li> <li>» Transport medium</li> </ul>                           | <ul style="list-style-type: none"> <li>» Maintains isotonic conditions</li> <li>» Minimizes stress during handling</li> <li>» Compatible with live cells and assays</li> </ul>                                    |
| <b>Hanks' Balanced Salt Solution (HBSS)</b> | <ul style="list-style-type: none"> <li>» Washing sensitive cells</li> <li>» Enzyme carrier</li> <li>» Serum-free incubation</li> </ul>            | <ul style="list-style-type: none"> <li>» Supports metabolic balance</li> <li>» Provides essential ions (<math>Mg^{2+}</math>, <math>Ca^{2+}</math>)</li> <li>» Suitable for short-term maintenance</li> </ul>     |
| <b>HEPES Buffer (1 M)</b>                   | <ul style="list-style-type: none"> <li>» Media supplement</li> <li>» pH buffering outside incubator</li> <li>» Defined culture systems</li> </ul> | <ul style="list-style-type: none"> <li>» Ensures stable pH in ambient air</li> <li>» Reduces fluctuations outside <math>CO_2</math> incubator</li> <li>» Compatible with proteins and sensitive assays</li> </ul> |

## BALANCED SALT SOLUTIONS

Balanced salt solutions are most commonly used in cell culture to maintain pH and osmotic pressure. Therefore, they are essential components of cell culture and bioprocessing workflows. Capricorn Scientific offers these buffers in various formulations and volumes to support a wide range of applications — from gentle cell handling to downstream processing.

All our buffers are:

- » Sterile-filtered & endotoxin-tested
- » Free of animal-derived components
- » Consistent osmolality & pH
- » Available in various formulations
- » Flexible bag and container filling for large-scale downstream processing

Also Available in  
Convenient 2D Bags  
or Containers



## ORDER INFORMATION

| PRODUCT                                                       | VOL.   | CAT.NO.  |
|---------------------------------------------------------------|--------|----------|
| <b>Hanks' Balanced Salts</b><br>with Ca & Mg, w/o Phenol Red  | 500 ml | HBSS-1A  |
| <b>Hanks' Balanced Salts</b><br>w/o Ca & Mg, w/o Phenol Red   | 500 ml | HBSS-2A  |
| <b>Hanks' Balanced Salts</b><br>with Ca & Mg, with Phenol Red | 500 ml | HBSS-3A  |
| <b>HEPES Buffer Solution (1M)</b>                             | 100 ml | HEP-B    |
| <b>Dulbecco's PBS (10x)</b><br>w/o Ca & Mg, w/o Phenol Red    | 500 ml | PBS-10XA |
| <b>Dulbecco's PBS (1x)</b><br>w/o Ca & Mg, w/o Phenol Red     | 500 ml | PBS-1A   |
| <b>Dulbecco's PBS (10x)</b><br>with Ca & Mg, w/o Phenol Red   | 500 ml | PBS-1B   |



SCAN FOR MORE  
INFORMATION

For further support, feel free to contact our experts at [techservice@capricorn-scientific.com](mailto:techservice@capricorn-scientific.com) or phone (+49 6424 944 64 0).

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