



Customized solutions for cell cultures.

Protocol

Production of HEK FS_2 Feed from powder

Please note, this document may be periodically updated in order to ensure the most current practices are in place. It is the user's responsibility to ensure the latest release of this protocol is applied. Valid versions are made available via Xell's webshop.

Production of liquid feed solution with the HEK FS_2 feed powder

Material:

- We recommend preparing the whole powder container in a single batch! For that, please adjust the amounts/volumes per L given in this protocol according to your container/batch size!
 - HEK FS_2 Powder (92.76 g/L; Cat.No. 880-XXXXDPM)
 - approx. 1 L H₂O per L feed solution (WFI or equivalent quality)
 - 4.0 g/L NaOH pearls/Pellets Ph. Eur. (equivalent to 12.5 mL/L 8 M NaOH)
 - 11.0 – 12.0 mL/L 6 M HCl Ph. Eur.
-
- We recommend wearing a dust mask during preparation!



Visual control:

Check:

- A. Container **Sealed and without any damage.**
- B. Appearance **Free flowing powder** (record color).












Color: _____

Procedure:

Check:

1.	15 - 35 °C 80 %	Fill 0.8 L per 1 L final feed solution 15-35°C water (WFI or equivalent quality) into the stirred tank/blending vessel. <i>Note: Deviating temperature may alter dissolution rate. An adaption of time for solubilization might be necessary.</i>	<input type="checkbox"/>
2.	80 %	Start the stirrer of the system. Due to foam formation during feed production, the vortex should not reach the stirrer.	<input type="checkbox"/>
3.	NaOH 4 g/L	Add 4.0 g/L NaOH slowly to the stirred water. <i>Note: Adjust amount according to batch size.</i>	<input type="checkbox"/>

4.		<p>Add 92.76 g/L of the HEK FS_2 Powder Kit slowly to the solution to avoid clumping.</p> <p>Note: We recommend preparing the whole Powder Kit at once.</p>	<input type="radio"/>
5.		<p>Rinse the weighing dish/container with 0.05 L water (WFI or equivalent quality) and pour liquid into the stirred tank.</p>	<input type="radio"/>
6.		<p>Stir for 30 minutes (pH will be 9.4 – 9.9 at this point).</p> <p>Note: The powder will dissolve at this stage at pH 8.8 -9.3!</p>	<input type="radio"/>
7.		<p>Titrate with 6 M HCl to pH 6.7 ± 0.1 (usually between 11.0 to 12.0 mL/L of 6M HCl is required) and adjust volume to batch size.</p> <p>Note: The powder should be completely dissolved, and the solution should be clear.</p>	<input type="radio"/>
8.		<p>Stir for 60 minutes (pH will be 6.4 – 6.9 at this point).</p>	<input type="radio"/>
9.		<p>Add an appropriate volume of water (WFI or equivalent quality) into the stirred tank/blending vessel to reach the final volume.</p> <p>Note: Final volume depends on batch size!</p>	<input type="radio"/>
10.		<p>Stir for 5 – 10 minutes.</p> <p>Note: If powder is not completely dissolved, stepwise increase mixing time by 10 min.</p>	<input type="radio"/>

11.		Check pH (pH 6.6 - pH 6.8) and osmolality (360 - 400 mOsmol/kg - for 1:2 dilution in water).	<input type="radio"/> <input type="radio"/>
12.		The feed solution can now be sterile filtered (0.45 μm + 0.1 μm) and bottled .	<input type="radio"/>

Change History:

Revision	Date	Author	Comment/Description
01	21.09.2022	AWU	Initial version
02	25.10.2022	CBA	Adjustment of Product Name
03	04.10.2024		Change of contact details & company name

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