What is Claimed:

1. A process for formulating buffer products for feeding to a bioprocess comprising:

combining multiple buffer solutions to form a final buffer product, the multiple buffer solutions including at least a first buffer solution and a second buffer solution;

measuring a conductivity of the final buffer product;

measuring a refractive index of the final buffer product;

comparing the measured conductivity to a preset conductivity range and comparing the measured refractive index to a preset refractive index range; and

selectively adjusting a flow rate of at least one of the first buffer solution in relation to a flow rate of the second buffer solution in order to maintain the conductivity and the refractive index of the final buffer product within the preset ranges.

2. A process as defined in claim 1, wherein the process is a continuous process and wherein the multiple buffer solutions are combined inline to form the final buffer product.

3. A process as defined in any of the preceding claims, further comprising the step of measuring the refractive index of each buffer solution as the buffer solution is being combined with the other buffer solutions to form the final buffer product.

4. A process as defined in any of the preceding claims, wherein at least certain of the buffer solutions contain a concentrated buffer component that becomes diluted in the final buffer product.

5. A process as defined in any of the preceding claims, wherein the measured conductivity and refractive index of the final buffer product are fed to a controller and wherein the controller selectively increases or decreases flow of one or more buffer solutions in order to maintain the refractive index and the conductivity within the preset ranges.

6. A process as defined in any of the preceding claims, wherein at least three buffer solutions are combined to form the final buffer product.

7. A process as defined in any of claims 1-5, wherein at least four buffer solutions are combined to form the final buffer product.

8. A process as defined in any of the preceding claims, wherein the first buffer solution and the second buffer solution include at least one common cation or anion.

9. A process as defined in claim 8, wherein the first buffer solution and the second buffer solution contain at least one buffer component, the buffer component comprising sodium phosphate, sodium acetate, or sodium chloride.

10. A process as defined in any of the preceding claims, wherein the refractive index measurement of the final buffer product is compared with a measured temperature of the final buffer product in determining whether the measured refractive index of the final buffer product is within the preset limits.

11. A process as defined in any of the preceding claims, wherein the final buffer product has a refractive index set point and wherein the preset refractive index range is within 10% of the refractive index set point.

12. A process as defined in any of the preceding claims, wherein the final buffer product is fed to a cell culture containing mammalian cells.

13. A process as defined in any of claims 1-11, wherein the final buffer product is fed to a chromatography process.

14. A process as defined in any of claims 1-11, wherein the final buffer product is fed to a filtration process.

15. A process as defined in claim 14, wherein the filtration process comprises an ultrafiltration process, a diafiltration process, or an ultrafiltration/diafiltration process.

16. A bioprocess system comprising;

a bioreactor defining a hollow interior for receiving a cell culture, the bioreactor including a plurality of ports for feeding and/or removing materials from the hollow interior;

a nutrient media feed for feeding a nutrient media to the hollow interior of the bioreactor, the nutrient media feed being in fluid communication with at least one of the ports on the bioreactor;

a buffer feed for feeding a final buffer product to the hollow interior of the bioreactor, or to a downstream process in communication with the bioreactor;

a plurality of buffer solution feeds that are each in communication with the buffer feed, each buffer solution feed being in communication with a control device for controlling flow of a respective buffer solution into the buffer feed for formulating a final buffer product;

a conductivity probe for measuring a conductivity of the final buffer product;

a refractive index measurement device for measuring a refractive index of the final buffer product; and

a controller in communication with the conductivity probe and the refractive index measuring device, the controller being configured to compare conductivity measurements and refractive index measurements with a preset conductivity range and a preset refractive index range respectively, the controller, based on the measured conductivity and refractive index, being configured to control a flow rate of the buffer solutions for selectively increasing or decreasing flow of a buffer solution into the buffer feed in order to maintain the final buffer product within the preset conductivity range and the preset refractive index range.

17. A system as defined in claim 16, wherein the system includes at least three buffer solution feeds that are in fluid communication with the buffer feed.

18. A system as defined in claim 16 or 17, wherein the controller comprises one or more microprocessors.

19. A system as defined in any of claims 16-18, further comprising refractive index measuring devices located to measure a refractive index of each buffer solution leaving each buffer solution feed.

20. A system as defined in claim 19, wherein the controller receives refractive index measurements taken by the refractive index measuring devices in communication with each of the buffer solution feeds.

21. A system as defined in any of claims 16-20, wherein the system further includes a temperature sensor for measuring a temperature of the final buffer product, and wherein the temperature measurements taken by the temperature sensor are feed to the controller and wherein the controller is configured to compare the measured temperature with the measured refractive index of the final buffer product for determining whether the final buffer product is within the preset refractive index range.

22. A system as defined in any of claims 16-21, wherein the controller is programmed with a refractive index set point and wherein the preset refractive index range is within 10% of the refractive index set point.

23. A system as defined in any of claims 16-22, wherein the buffer solutions each contain at least one of tricine, bicine, a sulfonic acid, sodium cacodylate, sodium acetate, sodium phosphate, sodium chloride, an acetic acid, glycinamide, or acetamidoglycine.