

Technical Bulletin

SAFC Biosciences' Continuous Milling Facility

SAFC Biosciences is constructing a second dry powder media manufacturing facility to be located at our corporate headquarters in Lenexa, Kansas in the United States. This facility will incorporate a new milling technology based on pin milling and is scheduled for completion June 2005.

What is milling?

Milling is the processing of raw materials utilizing machinery that reduces the particle size of the materials by grinding, compressing or pulverizing. Particle size reduction results in a powder that is homogeneous with regard to particle size distribution, and in the case of cell culture media improves the solubility of the complex mixture of chemicals.

What is pin milling?

Pin mills are a type of high speed impact mills that do not employ grinding stones. The mill is composed of a raw material inlet, a set of rotating disks and a product outlet. Raw materials are fed into the mill and enter the center of the disk where they are centrifugally propelled outward and the particle size reduced by rotating intermeshed pins. Pin mills are capable of reducing the material particle size to 50 µm or smaller.

Continuous milling

SAFC Biosciences' dry powder facility will utilize continuous milling whereby lot-specific raw materials are fed into a pre-blend hopper, conveyed through the pin mill and to a post-blender to complete the process. The key attributes of SAFC Biosciences' new continuous milling facility will be:

- Pharmaceutical grade construction with regard to the process equipment, the application of validated clean-in-place technology and the facility.
- Particle size distribution controlled effectively by varying the speed of the rotating disks and the flow rate of the raw materials into the process.
- Nitrogen process gas used to move the raw materials through the process providing a favorable environment for temperature sensitive components.
- Four metric ton capacity designed to support customers requiring large volumes of dry powder media.
- A second manufacturing site for dry powder media supporting risk management.
- Production of media that is completely comparable in quality to SAFC Biosciences' existing dry powder media.

Project timeline

Ground breaking — February 2004

Construction — February 2004 - March 2005

Commissioning and Validation — January 2005 - June 2005

GMP manufacturing — June 2005

For more information about this subject or any SAFC Biosciences' products or services, please contact our Technical Services department.

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