

***** Technical session presented at PTXi by Nisshin on May 8 *****

- 1) Date: Thursday, May 8 (Thu), 2008
10:00 AM -11:00 AM (2nd presentation)

- 2) Place: PTXi2008 Technical Session 404: Nano Powders
In Rosemont, IL (at seminar room in Convention Center)

- 3) Title: Preparation & Property Control of Fine Powder in Dry Processes

- 4) Presented by:
Dr. Satoshi Akiyama, Manager (Nisshin Seifun Group Inc.)
Dr. Carl Ishito (AAAmachine, Inc)

< Abstract >

Numerous techniques have been developed to prepare fine powders in dry processes. There are two major approaches to produce fine powders, namely, breaking-down and building-up approaches. The breaking-down approach is size reduction of large particles. The building-up approach nucleates particles from atom or molecules, which is most commonly used for production of nanometer-sized powders. In this presentation, particle size control techniques of powders with diameter in the range from nanometer to micrometer will be discussed.

First, we demonstrate the improvement of grinding and classification processes for fine powders including toners, ceramics and metal using a new classification and grinding technology.

Second, we describe the synthesis of nanometer-sized powders by a radio frequency (RF) thermal plasma method.

Finally, we discuss properties control including particle size and crystal structure of nanometer-sized powders by the plasma method.