Perfecting particle size for agricultural chemicals

The Micronizer jet mill from Sturtevant boosts reactivity by grinding particulate materials to sub-micron sizes – without the heat buildup that can harm sensitive products

Many chemical compounds are highly susceptible to temperature-related degradation.

The **Sturtevant** Micronizer brand jet mill reduces the particle size of pesticides, herbicides, fungicides, insecticides, and otherdry chemicals to 0.25 µm or larger with narrow size distributions and without heat buildup.

The Micronizer employs high-pressure compressed air, steam or other gas to disperse and deagglomerate the particles. It consistently produces nano-sized particles whose combined surface area is far greater than that of larger particles, which increases their chemical reactivity.

The Micronizer utilizes a unique fluid energy grinding system to generate particle-on-particle impact without raising the product temperature. Activated by high-pressure air, the particles are accelerated into a high-speed rotation in a shallow grinding chamber. As the particles impact on one another their size is reduced.

Centrifugal force holds larger particles in the grinding rotation area until they have achieved the desired fine particle size.

Centripetal force drags the desired particles towards the static classifier where they are allowed to exit upon achieving the correct particle size. The final particle size is controlled by varying the rate of the feed and propellant pressure. The high-performance design surpasses the economical fineness limit of many mechanical grinders.

The Micronizer's open manifold design allows complete access to the grinding chamber and compressed air chamber for easy cleaning, product changeover, or inspection.

There are no dead zones to trap material, no moving parts to wear, and no grinding media or lubricants to contaminate the material being milled.

Sturtevant can solve the most challenging wear and contamination problems using interchangeable wear-resistant liners such as Pureline, ShieldOx, and ArmorLine, and specially engineered coatings like Lubriguard, to provide contamination-free wear protection and enhance the performance of agricultural chemicals.

The Micronizer can also be found in sanitary applications such as pharmaceuticals, nutraceuticals, food ingredients, and biotechnology, as well as metals, pigments, coatings and cosmetics.

Sturtevant offers a fully equipped test facility for conducting customer trials to determine the optimum equipment and system layout for each application.

The Sturtevant Micronizer jet mill (photo) yields particle sizes down to 0.25 µm. Its use of fluid energy allows it to out-perform mechanical grinding systems without creating undesirable temperature rise.

MICRONIZER

For detailed information about milling chemical compounds contact Rich Robatzek at info@micronizer.com or call 1-800-992-0209.

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