

Are Enzymes Safe Products?

Enzymes are natural proteins found in all living organisms. They perform a myriad of functions sustaining life as we know it.

Then, why would anyone question their safety? Enzyme preparations may cause a negative reaction, not to animals consuming them, but to human operators not only during feed manufacturing but especially when maintenance and check of the machines is done. Like all naturally occurring proteins, enzymes may cause inhalation allergy, same as pollen or cat dander affect a small segment of the human population. The symptoms may be experienced by workers when exposed to dusty enzyme products during the mixing of nutritional products. The root of the issue is that the very first enzyme preparations were in the form of a fine (dusty) powder. As would be expected, working with such products, outside a well-ventilated hood or without wearing a suitable mask, is an invitation to trouble as dust is bound to be raised and inhaled by human workers. Of course, not all humans were affected. Only those few unfortunate individuals susceptible to an allergic reaction were affected.

Thus, modern enzyme manufacturers have invested in technologies to reduce and then virtually eliminate the problem of enzyme product dust, with its potential allergic negative effects on human operators. The first effort resulted in products that were simple granules. This made a vast difference in the flowing characteristics of the enzyme products and also reduced dramatically the dust associated with their handling and mixing. Nevertheless, the problem was not resolved completely and further steps were taken to ensure a higher degree of safety.

To ensure a virtually dust free product, Novozymes has invested – already in the early goies – in developing a process that creates coated thermo stable products. This technology has resulted in the commercial forms of RONOZYME® enzymes



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being marketed with the name extension CT, M or most recently GT granules. As seen in the photograph below, the CT granule formulation is a product devoid of dust at the manufacturing point. Nevertheless, it should be emphasized that during handling, any spills should be removed promptly as crashing of the granules can release dust.

As a final note, it should be reminded that the issue of allergy to enzymes is solely an occupational hazard for human operators exposed to enzyme dust or aerosols. The cause may be application of non-granulated products or by incorrect handling. No negative effects on animals and farm personnel have ever been reported for almost 40 years of use.



*CT form of RONOZYME® ProAct
and its results on a black filter
paper in a dust measurement*