Handling and Working with Enzyme Containing Ingredients in the Bakery Sector

**Always Follow These Important Guidelines**

### Containment and Control of Enzyme Dust and Aerosol Spray
- Enzyme-containing ingredients must always be handled and processed in ways that avoid the formation of dust clouds or aerosol spray.
- Engineering control measures should be in place to avoid the formation of dust or aerosol as far as possible.
- Where any openings are unavoidable in the process then suitable ventilation and air flow control should be in place.

### Safe Working Practices
- Weighing of flour and ingredients:
- Unloading flour and improvers from a silo into mixing bowls (semi-industrial craft bakery):
- Unloading flour and improvers from bags into mixing bowls (artisan bakery):

### Spillage Clean-Up / Cleaning Plant and Equipment for Ingredients that Contain Enzymes
Always clean up immediately after any spillage.
Do not use:
- Brushes, brooms, high pressure water hoses and/or compressed air.

Please use:
- A vacuum cleaner fitted with two filtration steps. The final filter should be a high efficiency HEPA H14.
- Always wear respiratory and personal protective equipment when dealing with spillages or undertaking cleaning operations.

### Why Do We Need a Dust Control Programme?
- Dust exposure can damage our health!
  - Enzyme dust may provoke sensitization in the same way as inhaling common allergens like pollen or house dust.
  - Symptoms include red eyes, runny nose, shortness of breath and wheezing.

Flour and other bakery ingredients - like enzymes - are allergens

Exposure can be prevented or minimised to a safe level by:
- Preventing the dust from becoming airborne.
- Using appropriate protective equipment.
- Always following the correct operating procedures.

### Best Practices
- Prevent dust formation.
- Avoid spreading dust from one area to another.
- Always clean up after a significant spillage.
- Change your working clothes according to company instructions.
- Some operations, for instance during spill clean-up, may require respiratory protection (a P3, FFP3 or N100 should be used).
- Use additional protective clothing such as gloves and safety glasses to minimize any risk of skin contact.

### First Aid Measures in Case of Exposure to Enzyme
- **Eye contact**: Rinse carefully with clean water for several minutes. Remove contact lenses if they are present and it is easy to do so. Continue rinsing if eye irritation persists.
- **Skin contact**: Wash with plenty of soap and water. Remove contaminated clothing.
- **Ingestion**: Rinse mouth thoroughly. If swallowed, call a doctor/physician if you feel unwell.
- **Inhalation**: If breathing is difficult, move to fresh air and remain resting in a position that is comfortable for breathing.
- **General advice**: Seek medical advice from local first aid or a company doctor if respiratory irritation or shortness of breath persists.

A typical hazard label for enzyme-containing formulations looks like this.