

# HANDLING AND WORKING WITH ENZYME CONTAINING INGREDIENTS IN THE BAKERY SECTOR



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

## 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:



Pouring ingredients from height creates airborne dust.



- ▶ Unloading flour and improvers from a silo into mixing bowls (semi-industrial craft bakery):



Elevated dumping height and violent shaking of the guidance hose creates airborne flour dust.



- ▶ Unloading flour and improvers from bags into mixing bowls (artisan bakery):



1. Open the bag at the stitched end.



2. Place the open bag end in the mixing bowl.



3. Make a slit in the opposite end of the bag with a knife.



4. Tip the bag gently into the bowl.



5. Lift the bag so that the flour slides out cleanly into the bowl.

### 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 minimise 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.

