

Modified atmosphere testing and logging increasingly important for food safety audit, says industry expert

As food safety standards become increasingly stringent, companies providing modified atmosphere packaging need to ensure that they have appropriate monitoring and reporting systems in place, according to industry experts.

“For many years there have been regulations relating to putting modified atmospheres into packaging, but recently the situation has become a lot more strict – something that has largely been driven by customers, notably the big supermarkets,” said Mette Skråe, a food inspector with Bureau Veritas, a leading global certification and inspection company for food safety. Two main areas of food safety standards as applied to modified atmosphere packaging (MAP) relate to traceability and hazard control.

The EU directive No 95/2/EC classified gases used in MAP as food additives, and as such these come under the regulations governing food traceability – the ability to track a food product through all stages of production, processing and distribution.

“The main thing is that if you are putting something in your product, whether it is a gas or it is salt, you should be able to trace that substance back through the different stages of the process to the people who produced it,” said Skråe. “If there are different batches of a product, for example, it is necessary to know which batch is supplied to which customer. If a problem is identified by a customer, the packaging company should be able to check back through its data records to see what the situation was with that package at that particular point.”

Clearly to implement such traceability requires not only accurate and timely monitoring of the gas composition, but also robust and reliable record-keeping. “Maintaining records is important,” said Skråe.

Hazard analysis is also a key requirement within the food sector. This is governed by the concept of hazard analysis and critical control point assessment (HACCP), an approach designed to systematically reduce or eliminate physical, chemical and biological hazards. This requires the identification and monitoring of key control points in the process where hazards could arise. In the US, for example, the Food Safety and Inspection Service, FSIS, requires each monitoring procedure and its frequency to be listed in the HACCP plan.

In MAP such critical control points would include the gas content and package seal integrity.

“When critical points are identified, it is important to monitor them as often as possible,” said Skråe. “Monitoring manually is often time consuming and automated systems need to be developed. In the early days these monitoring procedures were sometimes done by random sampling and it was considered sufficient to test maybe one sample per day. Now far more testing is required as people are looking for increasing levels of safety and security.”

PBI-Dansensor, one of Europe’s leading companies dedicated to quality and process control for MAP processing, recognises these new challenges and has been developing technology to meet them. The company produces a range of automatic and manual gas analysers as well as innovative leak detectors for packaging.

“To meet ever-stricter food safety regulations it is important to have the correct quality control and quality assurance equipment,” said PBI-Dansensor’s sales and marketing manager

Karsten Kejlhof. "One of the main issues for both traceability and hazard analysis is to have documentation and data to show what was happening at a given point in the process at a given time. Keeping records and logging data is crucial."

Taking measurements and logging data manually is time-consuming and prone to human error, Kejlhof says. "With our newer equipment these functions are automated and the relevant information goes directly into a database, ensuring an appropriate workflow that enables information to be easily retrieved for traceability and hazard assessment at critical points."

For useful links and resources regarding the current regulations for modified atmosphere packaging, visit PBI-Dansensor's website: www.pbi-dansensor.com/HACCP

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