Our commitment – food safety

PROTECTS

WHAT'S GOOD™

Tetra Pak

Food safety:

Assurance that food will not cause harm to consumers when it is prepared and/or eaten according to its intended use.

WHO Codex Alimentarius
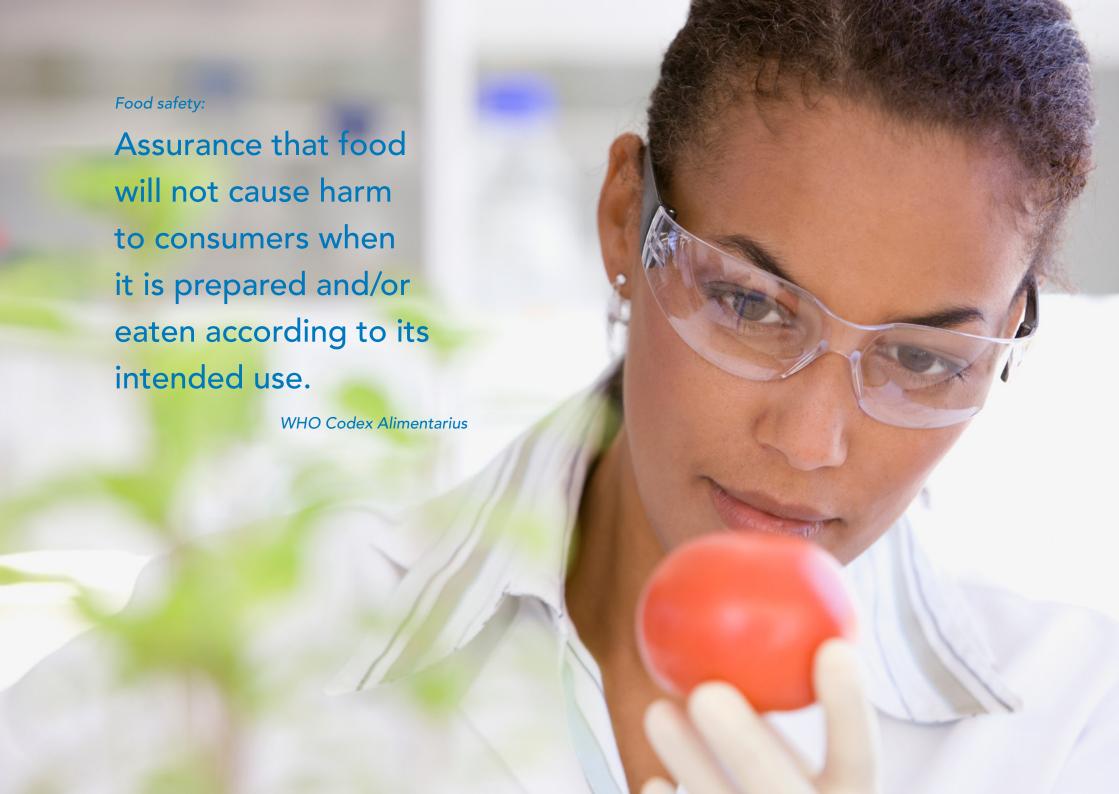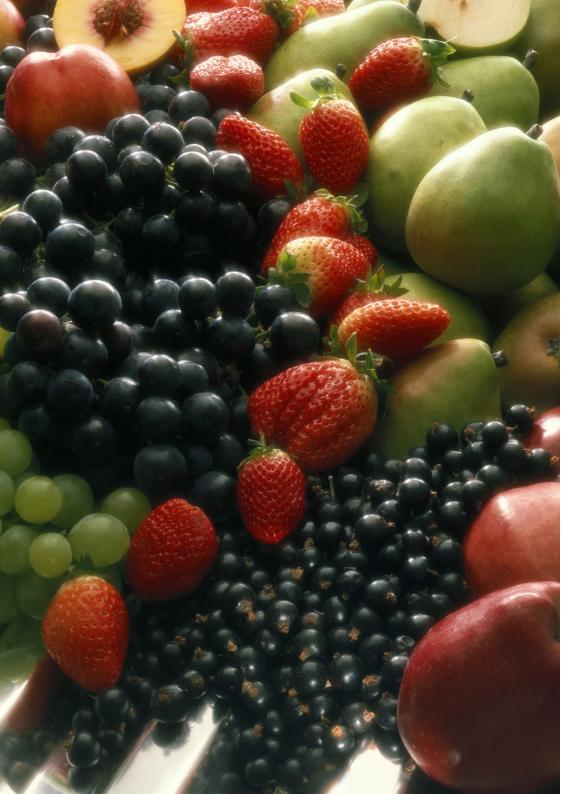
SECURE FOOD SAFETY – PROTECT YOUR BUSINESS.

Consumers expect food to be safe – as do distributors, legislators and retailers all over the world. To producers, food safety means so much more – it means being in full control of all production parameters at all times to secure quality and production throughput. It's a vital part of business.

Producers must know where ingredients come from. How and by whom are they handled? How are they processed? What hygiene norms govern the equipment used? How are foods packaged and shipped? Do they require refrigeration? Is the cold chain intact? And, last but not least, what is the cost of maintaining high food safety standards? And what is the cost of neglecting to uphold those standards?

WHOSE RESPONSIBILITY?

All parties in the food chain share responsibility for food safety: primary producers, processing and packaging industries, wholesalers and retailers, and even consumers. Most countries also have precautionary principles and legislation covering the production, handling, and sales of foods and beverages – but this is not enough. Even when products are bacteriologically safe and of high quality, incorrect storage or handling by the consumer can turn food into a health risk.

MAJOR HEALTH HAZARDS

For producers, failure to fulfil their responsibilities can lead to major health hazards, costly recalls, bad will, loss of reputation, and other serious financial consequences. Significant knowledge and resources are necessary to meet these challenges and few food producers themselves have the full range of knowledge or resources required. Tetra Pak enables food producers all over the world to achieve high standards of food safety – profitably – with unique knowledge and experience in safe food processing and packaging.

MATERIALS AND PARTS IN FOOD CONTACT.

Any materials or parts that come into contact with a food product also interact with that food product. This means that not only the packaging material, but also everything else in the production process that will ever come in contact with the food, must be taken into consideration.

A majority of food production equipment is made of stainless steel but a wide variety of materials, including plastics and elastomers, are also often present. Only materials approved for food contact may be used. Inertness and migration level are essential and often related to legal requirements.

HYGIENIC DESIGN

Wherever there is contact between materials and food, there is also a risk of contamination. Thus, food safety starts at the drawing board, with hygienic design.

Hygienic design ensures that every material that will ever come in contact with food – from components right down to connections and welds – is built for cleanability and is made of approved materials.

GOOD MANUFACTURING PRACTICE

Food safety legislation worldwide states that materials and articles intended for food contact must be safe and approved for food contact. According to good manufacturing practice (GMP): "the business operator shall establish, implement and ensure adherence to an effective and documented quality assurance system and take account of the adequacy of personnel, their knowledge and skills, and the organisation of the premises and equipment such as is necessary to ensure that finished materials and articles comply with the rules applicable to them."

QUALITY CONTROL SYSTEMS

In addition, it is important that quality control systems monitor the implementation and attainment of GMP and identify measures to correct any failure to achieve GMP. Such corrective measures must be implemented without delay and made available to competent authorities for inspection.

Business operators must also establish and maintain appropriate documentation in paper or electronic format with respect to specifications of manufacturing formulas and processes that are relevant to compliance with GMP and the safety of the finished materials and articles.

The tenth and hundredth finished material or article must be manufactured as securely as the first. In addition to ensuring GMP, Tetra Pak conducts hygienic risk assessment during the development and engineering phases of a project to analyse and evaluate hazards in order to reduce or eliminate such risks.

TRACEABILITY – PROTECTING YOUR VALUE.

The challenge for producers is to secure food safety in their production line, profitably. Adopting a holistic view on the entire production is the answer. Today, production is integrated: the product flows continuously through the plant, from raw material intake to distribution, without stopping. This means that producers must control every step, both individually and as part of the whole.

EFFECTIVE FLOW OF INFORMATION

Integrated processing and packaging solutions makes it easier for food producers to reach their objectives – for both safe and efficient operations. Integration means a number of things, such as making old and new equipment work together, or including third-party equipment in the customer's total operations. Integration demands an effective flow of information.

Thus, integration lies not in any particular hardware, but in the way producers can run a plant. Automation is key in integrated production, securing correct and safe functionality. Plant level automation controls the entire production solution and production process from intake to distribution, enables tracking, and secures traceability. Advanced control systems, such as Tetra Pak's plant automation system Tetra PlantMaster, are developed based on decades of information and experience from producers in the food industry.

TRACEABILITY IS ABOUT TRUST

As the food trade has become global, the ability to trace the source of foods, every step of the way throughout the food chain, has become a high priority for the food industry, authorities, retailers, and individual consumers.

A well-developed method ensuring traceability can prove invaluable and significantly reduce the cost of recalls and bad will. Tetra PlantMaster enables traceability through the entire production chain, from raw material intake to packaged product. Effective traceability is the result of structured data acquisition, where the acquired data is accessible and searchable. Traceability is essential if a product needs to be recalled, and it limits the size of the recall. Tetra Pak's traceability technologies improve the speed and reliability of the entire production process through real time monitoring and complete automation control. Traceability makes production transparent and allows anyone along the supply chain (including the consumer) to discover the origin and route of any given food via an Internet portal. Tetra PlantMaster gives producers control of the production parameters that impact safety and profitability.

TRUST CAN BE MAINTAINED

By tracking the origin of foods and their route through the food chain, the risk of unexpected incidents can be reduced and consumers' trust in food production can be maintained. This is one way to highlight the essence of the Tetra Pak motto, "PROTECTS WHAT'S GOOD"

CIP – SECURES SAFETY AND PROFIT.

Cleaning is a necessity in all food production. Cleaning-in-place (CIP) is the method of cleaning food and drink processing facilities without needing to dismantle any of the production equipment. A good CIP system helps cut costs and reduce the amount of downtime needed for cleaning.

CLEANING AS PART OF PRODUCTION

Manufacturers want to ensure food safety at all times, while keeping downtime for CIP to a minimum. This has led to a more holistic view and structured approach to cleaning as part of production, rather than an interruption and as separate from production. The type of food product being produced and its characteristics affect the cleaning strategy. For example, cleaning methods suitable for dairy products may not be suitable for fruit juice products. One way to improve cleaning efficiency is to implement structured guidelines and procedures that increase a producer's control over cleaning parameters. Cleaning according to schedules and defined guidelines secures food safety and product quality. In addition, new cleaning technologies, such as electro-chemically activated water (ECA) and ozone, have recently become available.

The implementation of production-adapted cleaning, through advanced automation systems that automatically adapt cleaning processes depending on the information returned via sensors and monitors, will improve cleaning results, reduce downtime, and secure food safety. Tetra Pak's IntelliCIP tool continuously monitors production parameters and indicates the CIP needs. Tetra Pak's Tetra PlantMaster automation solutions feature the CIP Recipe Editor, which includes all the necessary tools to create the optimal cleaning solution for each individual plant – for ensured food safety for the lowest possible cost.

VALIDATING CIP

Tetra Pak has also developed a structured method for validating CIP. It covers all the necessary steps from design qualification and installation qualification, to operational qualification and, finally, performance qualification.

However, having said this, it is important to note that improving cleaning methods is not a suitable way to correct improper design. Hygiene starts in the processing machinery design phase.

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POLICY & GUIDELINES.

Tetra Pak has established a food safety policy along with appropriate guidelines. A structured approach, consistency in working processes, and careful tracking of all events are key to ensuring food safety. It is also crucial to have a policy to guide food safety management. It is essential to have a common approach when creating systems and procedures for ensuring food safety. This also includes procedures for identification of all suppliers of materials and articles used in a manufacturing process. This is covered by the Tetra Pak food safety policy.

SECURING FOOD SAFETY

The Tetra Pak control framework covers a range of tools for securing food safety. Food safety charts, performance and quality analyses, and automated traceability are examples of the various tools that support food producers' efforts to comply with food safety regulations and consumer demands. Food safety charts identify critical control points and set limitation values for monitoring, and monitoring intervals, so that action can be taken if the set point values are out of the defined range. Food safety charts are an important aid when implementing a HACCP (hazard analysis of critical control points) program or a food safety management system such as ISO 22000:2005 including prerequisite program PAS220:2008.

QUALITY ASSURANCE MANAGEMENT

To safeguard food safety, it is vital to validate production procedures. Tetra Pak enables customers to develop structured methods for validating their food safety procedures that includes all the necessary steps from design qualification and installation qualification, to operational qualification and, finally, performance qualification. With the correct food safety procedures, product quality and throughput can be increased, while the sustainability of food safety is ensured.

The Tetra Pak QAM (quality assurance management) team offers food producers expertise and support to enable safe, high quality, and competitive food production. With over half a century of experience in food safety management worldwide, Tetra Pak offers services that include independent evaluations of production lines.

Stefan Åkesson is one of the experts who are enabling food producers to achieve better food safety.

Continuous research and customer development projects give us both deeper and broader knowledge about food safety issues, ranging all the way from food processing, through filling and packaging.

We enable our customers to benefit from this knowledge and experience through validated production solutions. This is the meaning of our vision: *"We commit to making food safe and available, everywhere"*.

For further information, please contact Stefan Åkesson, Manager of Food Safety & Equipment Safety, stefan.akesson@tetrapak.com.

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