

A close-up photograph of a chef's hands garnishing a dish. The chef is placing fresh green herbs (possibly microgreens or baby leafy greens) onto a piece of cooked fish, which is resting on a bed of white sauce and vegetables. The dish is served on a white plate. The background is blurred, showing a kitchen environment.

Safeguarding  
quality and  
safety in retail  
food operations



Empowering Trust™

# Safeguarding quality and safety in retail food operations

In their efforts to become a single source for all types of food and food products, today's grocers, supermarkets and convenience store operators are rapidly expanding the depth and variety of food options they offer to consumers. Consumers now have access to an ever-widening range of food staples, such as packaged foods, milk and other dairy items, and fresh fruits and vegetables, as well as stores-within-stores that offer an unending variety of freshly prepared and ready-to-eat foods and meals.

While offering greater variety and convenience for consumers, these expanded offerings have made the challenges of providing safe food even more daunting for retail food operators. At the same time, increased instances of foodborne illnesses attributable to poor health and hygiene practices along the supply chain have resulted in greater oversight by federal, state and local regulatory officials, as well as increased enforcement in connection

with food safety violations. These dynamics create a new imperative for grocery and supermarket operators to give priority to ensuring the effectiveness of their food safety, and hygiene programs and practices.

This UL white paper discusses the importance of regular auditing and review of in-store food safety and hygiene efforts in retail food operations. Beginning with a review of the challenges inherent in maintaining the safety and quality of food products in the retail environment, the paper then provides an overview of food safety, and hygiene regulations and standards that are generally applicable to grocery stores and supermarkets. The white paper then discusses how regular audits can help ensure the integrity of food safety programs and identify potential safety risks in advance, and concludes with information on UL's food safety programs and offerings.





# The impact of unsafe food

The World Health Organization estimates that 600 million people become ill each year after eating contaminated food, resulting in approximately 420,000 deaths.<sup>1</sup> In the U.S. alone, approximately 48 million people (one out of every six Americans) become ill annually because of exposure to foodborne diseases, according to the U.S. Centers for Disease Control and Prevention. Of those who are affected, nearly 128,000 are hospitalized and more than 3,000 die because of illnesses associated with foodborne pathogens or other unspecified food agents.<sup>2</sup>

These statistics help account for the seemingly daily barrage of news reports of a food product being recalled due to contamination or the presence of a harmful or allergenic substance. A 2018 study conducted by the Economic Research Service of the U.S. Department of Agriculture verified that there has been a significant increase in the number of food product safety recalls over the past decade. That study, which

evaluated 10 consecutive years of data on food product recalls reported by the U.S. Food and Drug Administration (FDA) and the Food Safety Inspection Services of the U.S. Department of Agriculture, found a clear upside trend in the average number of recalls reported annually, from 304 a year between 2004 and 2008 to 676 a year between 2009 and 2013.<sup>3</sup>

Aside from the risk of illnesses and death, unsafe food products also have a significant economic impact on food producers and distributors. For example, a survey conducted by the Grocery Manufacturers Association found that the average direct cost incurred by manufacturers in connection with a single food product safety recall ranged as high as \$30 million for three-quarters of the respondents.<sup>4</sup> This estimate does not include costs associated with potential litigation stemming from the product recall or a decline in sales of the same or similar products not affected by the recall offered by other manufacturers.

  
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*Leading to approximately*  
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Source: U.S. Centers for Disease Control and Prevention



## Food safety challenges for retail food operations

Retail operators are on the frontline of the food industry's efforts to bring safe food products to consumers. For example, when it comes to product recalls issued by a manufacturer, producer or distributor, retail food operators must continuously and proactively monitor communication from suppliers as well as postings by enforcement authorities and the media for reports of recalled products. Retail staff must also act quickly to remove recalled products from their shelves, as well as handle returns from consumers whom previously purchased potentially unsafe products.

But the safety challenges encountered in retail food operations extend far beyond facilitating the removal of recalled food products from store shelves. For example, supermarkets and grocery stores today typically play a direct role in the preparation and packaging of a variety of fresh food products to meet the rapidly evolving needs of the modern consumer. These can include precut and prepackaged fresh fruits and vegetables, as well as fresh meats, fish, cheeses and other dairy products. Increasingly, supermarkets are also offering freshly prepared and cooked restaurant-style meals for customers to consume at the store or to take home.

In most cases, these fresh food products are prepared on the premises or at a central commissary owned and operated by the retailer that supplies products to stores in multiple locations. When it comes to safety issues, these food preparation operations are no different from those run by independent food manufacturers and producers. A variety of factors, including improper hot and cold holding or cooking temperatures, contaminated food preparation utensils and equipment, and poor employee health and hygiene, can contribute to the unintended contamination of food products and can potentially result in unnecessarily exposing consumers to foodborne pathogens.

Many large food retailers also offer private label food products that have been produced by vertically integrated supply chain partners and cooperatives. Such vertical integration can serve to strengthen the connection between retailers and producers, and can contribute to lower production and distribution costs. But such partnerships can also increase retailers' exposure to the business challenges associated with the sale and distribution of unsafe food products.

To address these and other issues, retail food operators must take a comprehensive approach to address a broad range of potential food safety challenges, not only within their actual physical retail location but along the entire supply chain. In addition to addressing safety issues associated with traditional food products, the scope and oversight of an effective program must also include in-house food preparation operations and temperature-controlled storage units, off-site food storage facilities, trucks and other equipment used to transport food to retail stores and warehouses, supply chain partners and, in some instances, the originating sources of certain food products. This approach can help prevent unsafe food products from reaching the marketplace and protect consumers from unnecessary exposure to contaminated foods.



**\$30** \$\$\$ **MILLION**  
*the average cost*  
**manufacturers**  
pay from a food safety recall



# The U.S. Food Safety Modernization Act and retail food operations

The U.S. Food Safety Modernization Act (FSMA) represents a milestone in global safety regulations for the food industry. Signed into law in January 2011, the FSMA gives the FDA significant authority to help ensure the production and distribution of safe food products in the U.S. The FSMA also grants the FDA stronger enforcement mechanisms to support overall efforts to achieve the highest possible rates of compliance with prevention and risk-based food safety standards.



According to an FSMA provision, food facilities that produce or import food products for sale in the U.S. must be registered with the FDA. Furthermore, registered facilities are required to develop and implement a written preventive controls plan that: evaluates the hazards that could affect food safety; specifies the controls necessary to successfully address those hazards; and regularly monitors the effectiveness of those preventative controls. Registered facilities are also required to maintain all documentation related to such a plan and its implementation, including any corrective actions that are taken.

Other important provisions of the FSMA require importers to verify that food products from foreign suppliers meet U.S. food safety standards. Compliance with this requirement is demonstrated by certification of the supplier by an FDA-accredited third-party testing laboratory, under the FDA's Foreign Supplier Verification Program (FSVP). The FSMA also requires third-party testing and certification for specific food types, such as produce products, and includes provisions to protect food against intentional adulteration or from contamination during transportation.

Under the FSMA, grocery stores and supermarkets are retail food establishments and are generally exempt from the provisions of the FSMA. However, it is important to note that retail food operations such as warehouses, distribution centers and commissaries that are not co-located with or within a retail store are not exempt since these facilities are not engaged in the sale of food directly to consumers.<sup>5</sup> Therefore, retailers operating any of these nonexempt facilities must register those facilities with the FDA and ensure that these facilities comply with all applicable requirements under the FSMA.

While the FDA is charged with enforcing FSMA provisions, food retail operators also have a general responsibility to verify that the food products it receives from producers, distributors and importers meet FSMA requirements. This responsibility extends to all food retailers, regardless of whether they operate off-premises commissaries or warehouses. Indeed, verifying supplier compliance with the FSMA can help retailers to protect their reputation with consumers by reducing the risk of unsafe foods reaching the market through their stores.

## Other requirements and standards applicable to retail food operations

In addition to the FSMA, food safety requirements applicable to retail food operations are generally implemented at the state and local level. Although these requirements often differ from jurisdiction to jurisdiction, they typically adopt some or all of the provisions of the FDA's Food Code, which details uniform standards for food safety aimed at reducing the risk of foodborne illnesses within food establishments.<sup>6</sup> State and local authorities are responsible for monitoring compliance with these requirements, such efforts usually include unannounced inspections of retail food facilities.<sup>7</sup> Enforcement actions can include closure of certain retail operations, fines or other financial penalties.

Beyond regulations and mandatory requirements, regulators and the food industry have also developed a number of voluntary standards to address food safety in retail food operations. Originally established in 1999, the FDA's Voluntary National Retail Food Regulatory Program promotes the active control of risk factors associated with foodborne illnesses in retail establishments.<sup>7</sup> The core of the program is a series of eight separate standards, with each standard addressing various aspect of operations in retail food operations, such as foodborne contamination risk management, incident response management and staff training. The program was created to support the regulatory agency's framework for ensuring a comprehensive training, response and routine approach to reducing incidents of foodborne illness; the program also provides a framework that retailers can use to assess the effectiveness of their current food safety program and to identify areas where change is warranted.

A host of certification programs and industry standards may be applicable to certain aspects of retail food activities, such as commissary operations. These include the Safe Quality Food (SQF) certification, developed by the Safe Quality Food Institute (SQFI) and recognized by the Global Food Safety Initiative as an approved certification scheme. There is also Food Safety System Certification (FSSC) 22000, a global certification scheme developed by the Food Safety System Certification Foundation. Based in part on ISO 22000, the international standard for food safety management, FSSC 22000 is applicable to a broad range of food safety issues and includes specific requirements for food safety in retail operations, based on Publicly Available Specification (PAS) 221.



**SAFE QUALITY FOOD CERTIFICATION**  
*was developed by the*  
**Safe Quality Food Institute**  
and is recognized by the  
**GLOBAL FOOD SAFETY INITIATIVE**



# The role of independent audits in helping ensure food safety and quality in retail operations

As previously noted, successfully addressing food safety issues requires the implementation of a comprehensive food safety management program that establishes sound safety criteria for every aspect of food preparation and handling across the entire supply chain, and monitors operations for compliance with those criteria. For food retailers, regularly scheduled audits of a food safety management program by a competent and independent third party can be an effective tool in gaining assurances that the program is achieving its intended goal of minimizing food safety risks for consumers.



Periodic third-party auditing is required under most food safety management program certification schemes. But even for retail food entities not subject to certification requirements, regular third-party auditing of a food safety management system offers operators of grocery stores and supermarkets a number of important benefits:



## **Helps to ensure compliance with regulatory requirements**

Federal, state and local regulations applicable to retail food operators vary depending on the scope and scale of their operations. The regulations are subject to revision to address newly identified threats to food safety. Independent audits help to verify ongoing compliance with those regulations and signal potential areas of noncompliance in advance of any adverse action by regulatory authorities.



## **Provides advanced identification of issues that can lead to future safety risks**

Even well-designed and executed food safety management programs can develop vulnerabilities over time, due to changing business practices or newly discovered food safety risks. Regular auditing can help to identify those vulnerabilities before they compromise food safety and lead to program modifications that restore the integrity of the food safety management program.



## **Verifies consistency of operations with established policies and procedures**

Regularly scheduled independent auditing of a food safety management program evaluates the consistency with which established food safety policies and procedures are being implemented. This evaluation can help to validate the soundness and applicability of those practices, as well as their effectiveness in reducing the risk of food contamination and foodborne illnesses.



## **Establishes evidence of good faith efforts to provide safe and healthy food products**

Regular auditing of a retailer's food safety management system by an independent third party serves as evidence of the retailer's good faith efforts to reduce the risk of contamination in the food products they sell, as well as their commitment to doing everything possible to protect consumers from foodborne illnesses.

In addition to aiding retail food operators in identifying and addressing important food safety issues, third-party auditing can also be an effective tool in verifying issues related to food quality and brand integrity. For example, as food producers increasingly rely on various claims regarding the sourcing of ingredients or production methods, retailers can use audits to independently verify that the actual products they sell to consumers are consistent with those claims. Ultimately, audits that substantiate food quality or brand integrity claims benefit producers and retailers alike.

# UL's role in food safety in retail operations

UL is working with retail food operators across the U.S. to help them implement effective safety management programs that minimize the likelihood of contamination and the transmission of foodborne illnesses. UL's Everclean Solutions represent a holistic approach to food safety hygiene in the restaurant and retail food environment. Built on our extensive experience and in-depth knowledge of industry best practices, specific Everclean offerings include audit and certification services conducted in accordance with the requirements of the FSMA and the SQF, as well as industry specific programs such as the Retail Certification Program and the National Brand Certification Program. As required, we can also provide specialized audits to assess the integrity of food labelling, packaging weights and measures, pricing and brand identity.

UL also provides comprehensive testing and quality assurance support for food retailers. Our state-of-the-art laboratories are equipped with full analytical, physical, shelf-life and performance testing capabilities, enabling us to conduct the full range of food and food packaging testing specified in all generally accepted food safety testing standards. We can also provide batch microbiological testing

to detect foodborne pathogens, DNA testing to validate food ingredients and real-time polymerase chain reaction analysis to detect and define genetic modification in products.

In the areas of supply chain management in the food industry, our Responsible Sourcing group provides food safety auditing and advisory services for more than 500 retailers, brands and suppliers in 120 countries around the world. UL's Responsible Sourcing services include supply chain code of conduct development, supply chain risk mapping, audits and assessments of supply chain partners, and training.

Finally, UL has developed a comprehensive food safety training curriculum, and provides training on the FDA Food Code and Current Good Manufacturing Practice regulations and requirements. We're also a licensed SQFI Approved Training Provider and offer on-site and public training courses for SQF implementation. And UL is an exclusive partner of TAP Series, a leading provider of online classes and cloud-based learning solutions for the food industry.







## Summary + conclusion

For retail food operators, working to ensure the safety of the food and food products they sell to consumers remains a critical priority. But the breadth and diversity of today's retail food operations, combined with extensive food safety regulations and standards, mean that grocers and supermarket operators are confronted with a complex and ever-changing landscape for successfully addressing food safety issues. Audits of food safety management systems conducted by knowledgeable and independent third-party organizations can play a valuable role in a food retailer's efforts to bring safe foods to market and to protect consumers from the risks of foodborne illnesses.

For additional information about UL's food safety services for the retail food industry, contact us for more information at [QAInfo@ul.com](mailto:QAInfo@ul.com) or visit [UL.com/CRS](https://UL.com/CRS).

Finally, several food industry groups in the U.S. and elsewhere offer guidance and best practices for the handling of specific food types. One example is the Chilled Food Association CFA, based in the United Kingdom.

**Contact us for more information at [QAInfo@ul.com](mailto:QAInfo@ul.com) or visit [UL.com/CRS](https://UL.com/CRS).**

## End Notes

“Key facts,” World Health Organization, 31 October 2017. Web. 3 August 2018. <http://www.who.int/news-room/fact-sheets/detail/food-safety>.

“Burden of Foodborne Illness: Findings,” Centers for Disease Control and Prevention, 2016. Web. 3 August 2018. <https://www.cdc.gov/foodborneburden/questions-and-answers.html>.

“Trends in Food Recalls: 2004-13,” U.S. Department of Agriculture, Economic Research Service, April 2018. Web. 3 August 2018. <https://www.ers.usda.gov/webdocs/publications/88497/eib-191.pdf?v=43206>.

“Capturing Recall Costs: Measuring and Recovering the Losses,” report of a survey conducted by the Grocery Manufacturers Association, in conjunction with Covington & Burlington LLP and Ernst & Young, October 2011. Web. 3 August 2018. [https://www.gmaonline.org/file-manager/images/gmapublications/Capturing\\_Recall\\_Costs\\_GMA\\_Whitepaper\\_FINAL.pdf](https://www.gmaonline.org/file-manager/images/gmapublications/Capturing_Recall_Costs_GMA_Whitepaper_FINAL.pdf).

For a detailed explanation of the exemption for retail food establishments under FSMA, see section 10.3 of “Guidance for Industry: Questions and Answers Regarding Food Facility Registration (Sixth Edition),” U.S. Department of Health and Human Services, Food and Drug Administration, November 2014. Web. 3 August 2018. <https://www.fda.gov/downloads/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/UCM533526.pdf>.

See “Food Code 2017,” U.S. Food and Drug Administration. Web. 3 August 2018. <https://www.fda.gov/food/guidanceregulation/retailfoodprotection/foodcode/ucm595139.htm/>.

“Voluntary National Retail Food Regulatory Program Standards,” U.S. Food and Drug Administration. Web. 3 August 2018. <https://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/ProgramStandards/default.htm>.









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