



Interactive Reference

Food Safety Transparency across Your Supply Chain

FOREWORD

While food manufacturers and processors have increasingly demanded supply chain transparency over the past decade, U.S. Food and Drug Administration (FDA) rules implementing the Food Safety Modernization Act (FSMA) introduced in 2015 intensified the challenge. Compliance requires maintaining a formal risk-based supply chain program for any raw materials and other ingredients that a manufacturer/processor identifies as potentially risky to its production, thereby necessitating supply-chain-applied control to minimize the risk.

CRC Industries, the chemical specialty product manufacturer, notes in its *FSMA and Your Business* blog that the new law obliges buyers to hold their suppliers to the same food safety standards they must follow. “At every step along the food chain from farm to table, manufacturers and producers must be fully cognizant of the safety controls of their suppliers—and have the records to prove it,” CRC observes.¹

Clearly these provisions are intended to reduce contamination potential from ingredients. The rules were prompted by “a series of disastrous food recalls traced to suppliers who either didn’t know what they were doing, or intentionally sold adulterated, unsafe product,” CRC attests.

But there are many non-food sources along the manufacturing production line where unintentional food adulteration may accidentally occur. Water used to hose down equipment may contain harmful bacteria. Lubricants used to keep machines running at peak efficiency might touch the product as it whizzes by.

Thus, some materials used in food manufacturing, such as lubricants, are required separately under FSMA to demonstrate that their products are properly formulated, labeled, stored and used to prevent compromising food safety. This ensures that only “food-grade” lubricants are used where the food is produced. Lubricant manufacturers also must document their processes so that if a food safety problem arises, preventative control records and product formulations are readily accessible.

“If the world’s food supply were envisioned as an iceberg, the portion above the water line would represent

manufacturers, processors, and retailers. The portion of the iceberg below water—by far the largest segment—would represent the thousands upon thousands of suppliers that play a pivotal but often overlooked role in food safety.”²

CERTIFIED LAUNDRIES PROVIDE ASSURANCE OF SAFETY

Hygienically Clean Food Safety certified laundries are part of this foundation. When food manufacturers and processors review linen, uniform and facility services supplier options, every such laundry under consideration should be Hygienically Clean Food Safety certified. The certification reflects laundries’ commitment to best management practices (BMPs) in laundering as verified by third-party inspection and their capability to produce hygienically clean textiles as quantified by ongoing microbial testing. A laundry’s dedication to compliance and processing healthcare linens and garments using BMPs as described in its quality assurance (QA) documentation is confirmed. QA is the focus of inspectors’ evaluation of critical control points to minimize risk.

The Hygienically Clean Food Safety certification protocol requires laundries to conduct Hazard Assessment Critical Control Point (HACCP) planning. Inspections scrutinize a laundry’s techniques for:

- Conducting hazard analysis
- Determining CCPs, monitoring their control, correcting them if not under control
- Validating and verifying HACCP system effectiveness
- Documenting and record-keeping to show ongoing conformance

This takes place even though laundered textile products are never intended to physically contact the food supply, unlike other supplies subjected to HACCP examination, such as packaging. But garments *could* contribute to unintentional adulteration. The classic example: a uniform service that unknowingly provides a lab coat (buttons) to a wearer instead of a butcher coat (snaps) creates increased risk of a detached button falling into food production.

1. “The Challenge of FSMA Transparency,” CRC Industries, <http://fsmafoodgradelubricants.com/tag/supply-chain-transparency>
2. “A Safer Food Supply?” CRC Industries, <http://fsmafoodgradelubricants.com/tag/supply-chain-transparency>

Should the FSMA supply-chain program rule apply to laundries? When the FDA first wrote the regulation, it sought to clarify which supplies might be included by *disqualifying* those that could be *excluded* under any of these criteria:

- The raw materials and ingredients pose no significant hazard
- Preventive controls at the receiving facility are adequate to significantly minimize or prevent each such hazard
- The receiving facility relies on its customer to control the hazard and annually obtains from its customer written assurance that the customer has established and is following procedures (identified in the written assurance) that will significantly minimize or prevent the hazard.³

Because linens, garments and other reusable textiles are not raw materials or ingredients, they escape the new rule. And a food worker who incorrectly receives a coat with buttons can be instructed never to wear such a garment, clearing uniforms again. But the facility that receives such a coat with a button that falls into its production line can't rely on its customer to mitigate the hazard if that customer is a consumer.

In the final rule, the FDA did not include this disqualification clause, labeling such terminology redundant. The proposed clause raises the question, however, of whether manufacturers and processors should take stock of relatively hidden, low-risk supplies that pose a minimal threat. Launderers have long been expected to be HACCP-conscious and consequently sought third-party verification of their HACCP plans. They attempted to adhere the core principle of what would become the FSMA supply chain transparency rule: that suppliers should be held to the same standards their manufacturer and processor customers must follow.

Members of TRSA, the Alexandria, Va.-based linen, uniform and facility services association, voluntarily created Hygienically Clean Food Safety certification to provide food industry customers with an even higher level of confidence. To support your efforts to maximize your confidence in all types of suppliers not covered by the transparency rule, this document prompts you to consider the variety of certifications available to

them. This is your guide to observing the spectrum of businesses that comprise your supply chain for evidence of their commitment to third-party verification of their processes and production as contributors to your product's safety.

COMMONLY TRACKED FOOD CERTIFICATIONS

To identify other types of suppliers besides laundries who seek certifications, we turned to Transparency-One. With offices in Boston and Paris, this firm enables companies to discover, analyze and monitor all suppliers, components and facilities in their entire supply chain. Transparency-One combines cutting-edge graph database technology, supply chain expertise and global supplier onboarding services to help all supply chain stakeholders reduce business risk.

Now serving several industries that need to closely track their suppliers' safety, sustainability and social responsibility, Transparency-One's legacy is in the food business. "We track ingredients from source to store," explains Cecile Camerlynck, director of marketing. "Depending on the depth of the supply chain, there can be two to 10 or more business partners connecting via Transparency-One to share information about the products they buy/sell from each other from the raw material to the finish good product."

Partnering with SGS (Société Générale de Surveillance), an international inspection, verification, testing and certification company with U.S. headquarters in Rutherford, N.J., Transparency-One connects business partners via the products they buy or sell to each other. Suppliers will specify their credentials and SGS verifies these. Buyers access suppliers' credential information through a web portal, entering ID information about a product (name, reference, weight, etc.), its supplier (name, location, etc.) and the facility where it's made or transformed.

Transparency-One identifies the following seven types of credentials as most indicative of dedication to food safety. Suppliers who earn these credentials are generally raw material and ingredient producers and packaging manufacturers.

3. "Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food," U.S. Food and Drug Administration, September 17, 2015, <https://www.regulations.gov/document?D=FDA-2011-N-0920-1979>

BRC Global Standard

A framework to manage product safety, integrity, legality and quality, and the operational controls for these criteria, in the food and food ingredient manufacturing, processing and packing industry. The standard is divided into these sections:

- Senior management commitment and continual improvement
- Food safety plan (HACCP)
- Food safety and quality management system
- Site standards
- Product control
- Process control
- Personnel⁴

Food Safety Systems Certification (FSSC) 22000

Developed to facilitate broader acceptance of ISO 22000 by prompting this standard to be recognized by the Global Food Safety Initiative (GFSI) as a full-fledged certification. FSSC 22000 is a food safety management certification enabling manufacturers to focus their food safety efforts on scientific and technical advances, and their audit resources on continuous improvement. It consists of three required components:

- ISO 22000: common framework across the entire food supply chain to manage requirements, communicate internally and externally and continually improve the system
- PRPs: food-sector-specific pre-requisite programs (ISO/TS standards/BSIPAS)
- FSSC 22000 requirements: adds specific requirements to ensure consistency and integrity, provide governance and management of the scheme⁵

Hazard Analysis and Critical Control Point (HACCP) Plans

A system for reducing the risk of safety hazards in food that identifies and controls these at specific points in

processing. Focused on biological, chemical or physical hazards, HACCP is suited to any company involved in manufacturing, processing or handling food products. HACCP plans are prepared for each process or product. Guided by the Codex Alimentarius Commission, plans consists of a development stage followed by implementation steps.

Development

- Assemble HACCP team
- Describe product
- Identify intended use
- Construct flow diagram
- On-site confirmation of flow diagram

Implementation

- List all potential hazards associated with each step, conduct a hazard analysis, and consider any measures to control identified hazards
- Determine CCPs
- Establish critical limit(s)
- Establish a system to monitor control of the CCP
- Establish corrective action to be taken when monitoring indicates a CCP is not under control
- Establish procedures to confirm that the HACCP system is working effectively
- Establish documentation concerning all procedures and records appropriate to these principles and their application⁶

International Featured Standard (IFS) Food

A GFSI-benchmarked standard for auditing food safety as well as quality of processes and products of food manufacturers. Most relevant for companies that manufacture, process or handle food or food ingredients. IFS Logistics is an alternative certification for food storage and distribution. Requirements are divided into these categories:

- Senior management responsibility
- Quality and food safety management system
- Resource management

4. "Food Safety: the Largest Global GFSI Manufacturing Scheme," BRC Global Standards, <http://www.brcglobalstandards.com/brc-global-standards/food-safety/>

5. "Q&A," FSSC 22000, <http://www.fssc22000.com/documents/standards/faq.xml?lang=en>

6. "What Is HACCP?," Food Safety Training and Tools, Vinca, LLC, <http://www.22000-tools.com/what-is-haccp.html>

- Planning and production process
- Measurements, analysis, improvements
- Food defense⁷

PrimusGFS

A GFSI-recognized audit scheme for certifying produce sector products from growing operations to minimally-processed (fresh-cut) produce products. Unlike other GFSI standards, which are classified into primary production or manufacturing categories, a PrimusGFS audit offers certification along the entire supply chain including processing and storing operations.

Depending on the operation being audited, audits include:

- Food Safety Management Systems (FSMS)
- Good Agricultural Practices (GAPs)
- Good Manufacturing Practices (GMPs)
- HACCP

The PrimusGFS scheme includes many requirements of the FSMA's Produce Safety Rule, Preventive Control for Human Foods Rule, Foreign Supplier Verification Program Rule and Sanitary Transportation Rule.⁸

Safe Quality Food (SQF) Program

A GFSI-recognized certification program recognized by retailers and foodservice providers around the world that reduce assessment inconsistencies and costs of multiple assessment standards, linking primary production certification to food manufacturing, distribution and agent/broker management certification.

Administered by the Food Marketing Institute (FMI), SQF benefits from continual retailer feedback about consumer concerns. These benefits are passed on to SQF certified suppliers, keeping them a step ahead of their competitors. SQF is the only scheme to integrate a quality component as well as food safety.

Featuring an emphasis on the systematic application of HACCP for control of food quality hazards, SQF

certification is earned at three levels and on an ongoing basis. Guidance documents aid compliance of operations in general processing and specific industry sectors such as feed, pet food and packaging.⁹

Supplier Quality Assurance (SQA)

A section in ISO/TS 22002.1 (9.2—supplier selection and management) that covers evaluation, approval, reevaluation and revision of an approved list of suppliers. The process is documented in an agreement between buyer and seller. Main components are supplier controls and buyer's verification of the agreement.¹⁰

A SQA agreement can be an effective means of control for incoming products or materials (e.g., raw material, ingredients) or delivery of services (e.g., transportation of goods). When such SQA agreements are in place, the buyer may use the assurances provided by the SQA to make decisions when developing and implementing their quality management program. For example, the frequency of monitoring may be lower or a potential hazard may be deemed not significant because the supplier has procedures, controls and records in place to control the hazard.

It's incumbent upon the buyer to develop these three SQA elements:

- Process for determining supplier's suitability as an SQA supplier
- Process for maintaining records and documents associated with the SQA agreement
- Procedures to verify the implementation and effectiveness of the SQA¹¹

BEYOND INGREDIENTS: OTHER CERTIFICATIONS

What credentials should providers of various types of products have? Is it reasonable to expect them to adhere

7. "IFS Food," International Featured Standards, <https://www.ifs-certification.com/index.php/en/standards/251-ifs-food-en>

8. "Primus GFS: A Global Food Safety Initiative Scheme," Azzule, <http://www.primusgfs.com>

9. "One World. One Standard." SQF Institute, <http://www.sqfi.com>

10. "SQA-Supplier Quality Audit," International Food Safety & Quality Network, <http://www.ifsqn.com/forum/index.php/topic/20907-sqa-supplier-quality-audit/>

11. "Criteria for an Acceptable Supplier Quality Assurance Agreement," Canadian Food Inspection Agency, <http://www.inspection.gc.ca/food/fish-and-seafood/imports/documents/qmpi-reference-standard/acceptable-supplier/eng/1414622488558/1414622489480>

to the same food safety standards your operation does? Launderers are certified to laundry-industry-specific standards for serving you (Hygienically Clean Food Safety) and they adhere to HACCP plans. To locate common equivalent credentials for other types of suppliers, we examined the **Food Processing Buyers Guide** of the Food Processing Suppliers Association (FPSA).¹² We combed this website's descriptions of supplier companies for evidence of their adherence to recognized programs, standards and certifications.

Our keyword search on "certification" found 98 companies that referred to their credentials in their Buyers Guide profiles—combining for 69 different designations. Five of the seven types discussed previously in this paper were represented as shown in the following bullets (with the supplier's product line). *Italics* indicate redundancy (same company has more than one of these credentials).

- BRC (3 companies)—sausage casings, liquid box containers, natural casings
- GFSI (5)—food safety management, food packaging/materials/inspection, food processing, foodservice paper/packaging, food processing/grains
- HACCP (7)—chemical products, industrial solutions; *food packaging/materials/inspection, food processing, food safety management, liquid box containers, natural casings*
- ISO 22000 (3)—active ingredients, compressor equipment; *liquid box containers*
- SQF (7)—folding food cartons/containers, vanilla and flavors; *chemical products, food packaging/materials/inspection, food processing, food processing/grains, foodservice paper/packaging, liquid box containers*

This group consists of just 14 companies from the sample of 98, indicating that an overwhelming majority of the rest are providers of something other than raw materials, ingredients or packaging. These other suppliers may have these core Transparency-One core safety credentials but they're not highlighted.

As reflected in their Buyers Guide descriptions, these suppliers see other credentials as more pertinent. Here are the most popular:

1. ISO 9001 (quality)—28
2. UL/CUL (electrical)—14
3. 3-A (sanitary equipment design)—12
4. CE (European conformity)—9

With numbers 2 and 4 on this list generally required for anything with an electrical plug, ISO and 3-A appear to be the strongest indicators of a supplier's dedication to safety.

Organizations use ISO 9001 to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements. It is the most popular standard in the ISO 9000 series and the only standard in the series to which organizations can certify.¹³

More than one million organizations from more than 160 countries have applied the ISO 9001 standard requirements to their quality management systems. Primary benefits:

- Organize processes
- Improve the efficiency of processes
- Continually improve

Suppliers that identified themselves with ISO 9001 are in these businesses are shown in Appendix 1. Another described itself as adhering to ISO 9000 (unclear which 9000 standard). Another indicated its tie to ISO 9002, which is obsolete, as 9001, 9002 and 9003 were combined into 9001 in 2000.

Another seven suppliers professed their loyalty to ISO 14001; six of these also have ISO 9001 (Appendix 2). First published in 1996, it's a systematic framework to manage the immediate and long term environmental impacts of an organization's products, services and processes. Key benefits:

- Minimize environmental footprint
- Diminish risk of pollution incidents
- Provide operational improvements
- Ensure compliance with relevant environmental legislation
- Develop their business in a sustainable manner¹⁴

Other ISO standards represented in the FPSA sample were:

12. Food Processing Buyer's Guide, Food Processing Suppliers Association, www.foodprocessingbuyersguide.com

13. "What Is ISO 9001:2015—Quality Management System?" Learn About Quality, American Society for Quality, <http://asq.org/learn-about-quality/iso-9000/iso-9001-2015/>

14. "ISO 14001 Environmental Management Systems Certification," Certifications Europe, <http://certificationeurope.com/iso-14001-environmental-management-certification/>

- ISO 13485 (2 companies)—medical devices such as test strips
- ISO 15848 (1)—industrial valves, measurement, test and qualification procedures for fugitive emissions
- ISO/TS 16949 (2)—automotive supply
- ISO 21469 (2)—lubricants for food, pharmaceuticals, cosmetics, animal feed manufacturing

The 3-A standards program (Appendix 3) is a partnership of FPSA, the American Dairy Products Institute, International Dairy Foods Association and International Association for Food Protection. (Three associations were founding partners, thus the “3-A” name.) **3-A Sanitary Standards Inc.** is their independent corporation dedicated to education and promotion of food safety through hygienic equipment design. 3-A SSI:

- Leads development of standards for equipment and accepted practices for processing systems through a modern consensus process based on ANSI requirements
- Administers the Third Party Verification (TPV) inspection programs required for the 3-A symbol authorization, 3-A process certificate, and Replacement Parts & System Component Qualification Certificate to help ensure conformance to standards and accepted practices for equipment design and performance.¹⁵

Discussed above are just 15 of the credentials from the FPSA sample, which leaves 50+ others. Most are not safety-specific, but nearly all are linked at least somewhat to safety. After all, if a product is manufactured to a standard, it's verified for its ability to function properly, which is critical to its safe performance in your operation.

Depending on the number of suppliers you use in your operation, our analysis shows that your job of ensuring supplier chain transparency can be daunting for FSMA compliance and downright massive when you expand beyond ingredients and raw materials. Is it worth it? Your stakes can be high, Transparency-One notes.¹⁶

- **Regulation.** California, then the United Kingdom and United States as a whole, and eventually the entire European Union, are putting more pressure on brands to control their entire supply chain.
- **Watchdogs.** These groups have their eyes on high-risk countries. If you do business with a supplier in one of these, it behooves you to take precautions to prevent anyone from concluding you are connected to an undesirable supplier.
- **Best practices enforcement.** In a supply chain where information only flows one level up and one level down, brands can't influence upstream suppliers to improve their practices. Certifications and standards can be part of the dialog in sharing and enforcing best practices throughout the supply chain, leading to product quality improvement and cost reduction.
- **Opportunities.** Improved connectivity throughout your supply chain enables you to understand it more clearly and make more informed business decisions. That improves your collaboration with other companies, governments and the public.

FoodLogiQ, which helps companies around the world unlock traceability, safety and sustainability, notes the importance of working across the food supply chain. CEO Dean Wiltse puts it this way: “2017 is going to be the year of transparency. A year of getting beyond one-up and one-back, and beyond the four walls of the food manufacturing facility to really dig down and understand what is going on two, three, four, or five levels down the supply chain, from a safety and risk mitigation standpoint.”¹⁷

Thus at a minimum it's wise to closely investigate at least *any* entity in your accounts payable, no less *their* suppliers. Recognizing the applicability of this concept to laundered linen and uniforms, **Hygienically Clean Food Safety** certified launderers are at your service. Click here to see a list of these laundries.¹⁸

15. “History - 3-A Sanitary Standards Inc. Then and Now,” 3-A Sanitary Standards Inc., <http://www.3-a.org/About-Us/History>

16. Durand, Julien, “4 Reasons to Become Transparent,” Transparency One, <https://www.transparency-one.com/4-reasons-become-transparent/>

17. “Will 2017 Be the Year of Transparency?” Food Safety Tech, December 19, 2016, https://foodsafetytech.com/news_article/will-2017-year-transparency/

18. Certified Textile Services Facilities, Hygienically Clean Food Safety, <http://hygienicallyclean.org/hygienically-clean-food-safety/certified-uniform-service-facilities/>

Appendix 1

ISO 9001 Certified Suppliers (FPSA Sample)

Casters and components
Containers
Conveyor belts
Electromechanical
Equipment manufacturing
Fluid detection stitches
Food service equipment
HVAC/clean air
Industrial solutions
Liquid product recovery systems
Meat casings
Misting systems
Moisture analysis instruments
Plastic building components
Plastics
Precision machinery
Processing equipment
Pumps
Pumps (3)
Pumps/valves (2)
Sausage casings
Switches
Temperature control systems
Test strips
Tubing
X-ray inspection equipment

Appendix 2

ISO 14001 Certified Suppliers (FPSA Sample)

*Containers
*Conveyor belts
*Liquid product recovery systems
*Pumps/valves
*Temperature control systems
Turkey growers
*X-ray inspection equipment
*Same company also ISO 9001 certified

Appendix 3

A-3 Certified Suppliers (FPSA Sample)

Conveyor belts
*Fluid detection stitches
Food processing equip/services
Medical gas compressor and railway compressor equipment
Pressure vessel fabrication
*Processing equipment
*Pumps
Pumps/fluids
*Pumps/valves
Stainless steel process systems
*Tubing
Vents
*Same company also ISO 9001 certified