



PS-63—2020

8484 Westpark Drive, Suite 220
McLean, VA 22102

(703) 788-2700 | www.cqanet.com

POSITION STATEMENT

MITIGATING FOOD FRAUD RISK IN FOOD GASES

Background

Food fraud has become a topic of interest due to scandals in the food industry. Food fraud acts, caused by negligence or lack of knowledge, generally occur for economic gain and can result in a food safety risk.

For the consumer, food fraud related risks can be defined as:

- Direct food safety risks—The consumer is put at immediate risk;
- Indirect food safety risks—Consumer is put at risk through long-term exposure; and
- Technical food fraud risk—There is no direct or indirect food safety risk. However, this indicates that material traceability may have been compromised and that the company is no longer able to guarantee the safety of their food products.

As a result, food suppliers are periodically being asked to share their food fraud risk mitigation plans. For more information, see *Guidance on Food Fraud Mitigation* (FSSC 22000) [1].

CGA defines food fraud as the intentional substitution, addition, tampering or misrepresentation of raw materials, final product, storage or distribution arrangements, product information, or false or misleading statements made about a product that could impact consumer health or mislead customers about the origins of the product or its raw materials for economic gain.

NOTE—This definition is based on various sources such as Global Food Safety Initiative [GFSI], U.S. Food and Drug Administration [FDA], *Food Safety Modernization Act* [FSMA], Foundation Food Safety System Certification 22000 [FSSC 22000] [2, 3, 4, 1].

This position statement explains, through a vulnerability assessment, the minimal opportunity and risk of various types of food fraud in the food gas industry.

Question

How does the food gas industry comply with food fraud requirements?

Answer

A group of experts from CGA member companies conducted a food fraud vulnerability assessment and identified the control measures that mitigate food fraud risk as shown in Table 1.

The overall risk for food fraud, either intentionally or unintentionally, is very low for bulk and packaged food gases. There are limited opportunities for economic gain by substitution. Gases are stored, loaded, and transferred in a closed pressurized system, so the ability to inject or introduce a foreign substance is highly improbable. The product is also analyzed throughout the manufacturing process to ensure acceptable purity. Although the risk of food fraud is very low, the industry is committed to ensuring mitigation measures are and remain in place (see CGA F-1, *Standard for Food Safety Management Systems and Good Manufacturing Practices for Food Gas Manufacturers*, CGA F-2, *Guideline for Food Gases Product Hazard Analysis and Risk-Based Preventive Control (HARPC) Program*, and CGA F-3, *Guideline for Qualifying Suppliers Used by Food and Beverage Gas Distributors and Manufacturers* [5, 6, 7].

Table 1—Food fraud vulnerability assessment

Food fraud type (GFSI)	Food fraud definition ⁽¹⁾	Risk	Vulnerability assessment risk level (High/Medium/Low)	Rationale	Food fraud mitigation measure/ verification
Adulteration					
Dilution	The process of mixing gases of higher value with gases of a lower value	Product does not work or provide benefits as intended	Low	Mixing gases increases cost without increasing value. Gases are elements or simple compounds with unique physical properties that cannot be diluted without creating a food gas mixture.	Process design, product analysis, and traceability
Substitution	The process of substituting a gas of high value with a gas of lower value	Product does not work or provide benefits as intended	Low	Substituting gases increases cost without increasing value. Gases are elements or simple compounds with unique physical properties that cannot be substituted without an evident change in action on the food, e.g. carbonation.	Process design, product analysis, and traceability
Concealment	The process of hiding the low quality of a gas	Product does not work or provide benefits as intended	Low	Gases are elements or simple compounds with unique physical properties that cannot be enhanced or concealed. Gases are not subject to spoilage or defect.	No motivation for concealment
Unapproved enhancements	The process of adding unknown and/or undeclared materials to gases to enhance quality attributes	Product does not work or provide benefits as intended.	Low	Adding materials to gases increases cost without increasing value and reduces the purity of the gas. Gases are elements or simple compounds with unique physical properties.	Process design, product analysis and traceability
Misbranding					
Mislabeling	Placing false claims on packaging for economic gain	Product does not work or provide benefits as intended	Low	The food gas industry is not subject to, nor does it use, direct to consumer labeling. Labeling is used to meet regulatory requirements.	No motivation for mislabeling
Counterfeiting	Gases being intentionally misrepresented for gases of a higher value	Product does not work or provide benefits as intended	Low	There is minimal opportunity for economic gain	No motivation for counterfeiting
Theft					
Gray market production, theft, diversion	Gases being stolen and sold through unofficial process.	Lack of traceability	Low	There is minimal opportunity for economic gain due to the low value of food gases and lack of market	Accounting processes, on-site security, hiring practices, chain of custody, and traceability
NOTE—For more information, see FSSC 20000 <i>Guidance on Food Fraud Mitigation</i> [1].					
¹⁾ Adapted from SSAFE – Safe, Secure and Affordable Food for Everyone [8].					