

Transport Standards

Maintaining Safe and Suitable Standards during Food Transportation

Development

To define detail, scope and purpose.

Development

This information can be used to develop food safety and quality programs that meet the requirements of modern Regulatory, Customer and Industry Standards:

- We take the time to explain the expectations and requirements of food safety and quality compliance as these relate to your food safety and quality programs.
- You may choose to use our Premium Resources to build, enhance or upgrade your food safety and quality program.
- We encourage you to share this webpage with any food compliance associates and peers you believe may benefit from our commitment to providing our users with user-friendly information and resources to to achieve superior Food Compliance Culture.
- We welcome your suggestions for additions of general or specific content through the haccp.com Contact Page.

Key Definitions for Transport Standards

- Cold Chain: The continuous series of temperature-controlled storage and transport steps that maintains food at the required temperature from production to the point of consumption.
- Conveyance: Any vehicle, container, vessel, or other equipment used to move food, ingredients, or packaging from one location to another.
- Reefer Container: A refrigerated shipping container fitted with a refrigeration unit to maintain the required temperature of the food during transport.
- Tamper-Evident Seal: A seal applied to a container, vehicle, or package that shows visible evidence if it has been opened or interfered with.
- Transport: Transport or transportation is the movement of items from one location to another.

Transport Standards Development

When considering the development, documentation, and implementation of Transport Standards within food safety and quality management systems, the following information should be considered to ensure effective outcomes.

Transportation is one of the most important steps in the process flow of modern food chains, and one that is commonly overlooked within the HACCP scope of many food businesses. This includes the transport of all risk categories from low to high-risk foods, raw materials, and other materials such as chemicals. Internal and external transport methods must be considered to ensure all potential hazards are controlled throughout all stages of any food business operation.

About Transport Standards

Where the transport of food is the responsibility of the food business, all transport requirements should be included within the process flow diagram, hazard analysis, and HACCP audit table. A transport policy should also be documented and implemented to include:

- Temperature control and monitoring requirements for potentially hazardous foods, as required by the relevant regulator. Where verification is not necessarily required for every load, a regularly scheduled validation study can often be used to show control over the transport process. Documentation and records should be available to provide evidence for such validations;
- Maintenance and Calibration;
- Cleaning and Sanitation;

- Cross Contamination, including separation of incompatible foods and allergens within mixed loads;
- Load security;
- Load and equipment settings, including pre-cooling of temperature-controlled vehicles and containers before loading;
- Corrective actions for non-conformance.

Where transport contractors are used to providing transportation services, they should be included within the approved supplier program, and the following requirements can be defined with a supplier agreement or contract:

- Proposed temperature and other nominated controls for specified products. This information can be specified for each type of food product being transported and can be referenced to the Product Description and Intended Use, Internal and External Specifications, and the transportation requirements nominated within the relevant legislation and industry guidelines. Verification and validation for temperature control activities at appropriate frequencies may be included as a component of the supplier agreement or contract;
- Transport security procedures;
- Liability and accountability for the product;
- Corrective actions for non-conformance;
- Commitment to compliance with relevant standards and legislation; and
- Loading, transport, and unloading procedures that do not pose a cross-contamination risk for the foods involved.

Where the transport of food is the responsibility of the customer, a documented contract should be formatted to include accountability and responsibility for products regarding ownership, as well as any other relevant requirements.

Maintaining Transport Security

Receival, Dispatch, and Transport security measures may include purchasing raw materials only from designated approved suppliers, establishing controls on incoming deliveries, limiting driver access to the food business during deliveries, thorough inspection and inventory accounting of delivered materials, use of tamper-evident packaging for finished products, and the use of tamper-evident seals on incoming and outgoing transport.

Contemporary Food Safety and Quality programs and systems often include requirements for the securing of transport modules or vehicles to reduce the risk of deliberate sabotage, intentional contamination, or tampering. In such cases, transport modules or vehicles may be secured physically, or by a system that permits the real-time acknowledgement of potential tampering. An example of a physical transport security mechanism may include the physical locking of transport modules or vehicles where these can only be opened by nominated participants within the supply chain. Where security systems are used instead of physical measures, these may include the implementation of controlled tamper-proof transport seals, mandated transport protocols, and/or specified tamper-proof mechanisms for the product (rather than the transport module or vehicle).

It is generally considered best practice to ensure that any implemented Transport Security protocols, physical mechanisms, and related controls are documented and agreed upon with relevant parties to provide a consistent controlled approach. Related requirements are commonly included within Transport specifications and service agreements between the dispatching entity, the receiving entity, and any other process participants and stakeholders.

Food Transportation



Crates moved by trolley within a food handling facility.

Food must be adequately protected during transport. The type of conveyances or containers required depends on the nature of the food and the conditions under which it has to be transported. Food may become contaminated, or may not reach its destination in a suitable condition for consumption unless effective control measures are taken during transport, even where adequate hygiene control measures have been taken earlier in the food chain.

Measures should be taken where necessary to:

- Protect food from potential sources of contamination;
- Protect food from damage likely to render the food unsuitable for consumption; and
- Provide an environment that effectively controls the growth of pathogenic or spoilage microorganisms and the production of toxins in food.

In doing so, conveyances and bulk containers should be designed and constructed so that they:

- Do not contaminate foods or packaging;
- Can be effectively cleaned and, where necessary, sanitised;
- Permit effective separation of different foods or foods from non-food items where necessary during transport;
- Provide effective protection from contamination, including dust and fumes;
- Can effectively maintain the temperature, humidity, atmosphere, and other conditions necessary to protect food from harmful or undesirable microbial growth and deterioration likely to render it unsuitable for consumption; and
- Allow any necessary temperature, humidity, and other conditions to be checked.

Conveyances and containers for transporting food should be kept in an appropriate state of cleanliness, repair, and condition. Where the same conveyance or container is used for transporting different foods, or non-foods, effective cleaning and, where necessary, disinfection should take place between loads. Where appropriate, particularly in bulk transport, containers and conveyances should be designated and marked for food use only and be used only for that purpose.

Procedures should be in place to:

- Sort food and food ingredients to separate material that is unfit for human consumption;
- Hygienically dispose of any rejected material; and
- Protect food and food ingredients from contamination by pests, or by chemical, physical, or microbiological contaminants or other objectionable substances during handling, storage, and transport.

Because of the way in which our food supply chains have evolved over time, many businesses use third-party contractors to provide a transportation service for the foods we consume.

It is important to consider that transport of food products, including raw materials, work in progress, or finished product may also occur internally within a food business. In such instances, it is crucial to the integrity of any established HACCP Plans that all transportation routes are identified within the Process Flow Diagram and assessed accordingly for potential hazards.

Food Transportation Containers

Refrigerated Containers (Reefer Containers) are ideally used as shipping containers for the worldwide trade of food. Such containers are equipped with refrigeration units, which may be powered by an attached generator or by the vessel or vehicle supply. Containers that are used for the transportation of food should be clean, disinfected, constructed of food-grade materials (for example, stainless steel), free of any holes or seepages. Where fumigation or other treatment is necessary, it should be applied only as required, with treatments and residue controls documented. Containers used for international transport must have a valid safety approval plate or CSC (International Convention for Safe Containers) plate.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Development requirements in relation to their items.

Transport Standards Development Key Points

- Transport Standards programs must be developed to meet relevant Regulatory, Industry, and Customer standards and requirements;
- The Senior Management of your business facilitate a commitment to ensuring adequate resources to the development of your Transport Standards program;
- Should you require additional resources for the development of Transport Standards program elements, please discuss this with the relevant Senior Management representative;
- A properly developed Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly developed Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Documentation

To establish the developed detail in a viewable format to facilitate information.

Documentation

Document: A document provides guidance and/or direction for performing work, making decisions, or rendering judgments that affect the safety or quality of the products or services that customers receive.

Documented policies, procedures, work instructions, and schedules form the basis of any food safety and quality management system. The following documentation formats may be considered to ensure ongoing compliance with specified requirements for Transport Standards:

- Transport Standards policy;
- Transport Standards development procedures;
- Transport Standards implementation procedures and work instructions;
- Transport Standards monitoring procedures;
- Transport Standards corrective and preventative action procedures;
- Transport Standards verification schedule;
- Transport Standards verification procedures;
- Transport Standards validation schedule;
- Transport Standards validation procedures;
- Transport Standards training procedures.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Documentation requirements in relation to their items.

You may wish to visit the Transport Standards Templates section of haccp.com for examples of Transport Standards documentation, record, and resource formats commonly applied within food safety and quality systems.

Transport Standards Documentation Key Points

- Transport Standards programs must be documented to meet relevant Regulatory, Industry, and Customer standards and requirements;
- All documented Transport Standards program elements must be controlled to ensure compliance;
- Key documented Transport Standards program elements should be available to your business team at all times to ensure they can facilitate required tasks;
- A properly documented Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly documented Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Implementation

To facilitate the application of the documentation.

Implementation

Implementation: Implementation is the application of documented food safety and quality system elements into the actual business operation.

The implementation of Transport Standards within any food business requires genuine commitment from senior management, staff, and visitors to ensure the nominated goals of implementation are achievable on an ongoing basis. It is a step that requires significant planning and consideration of general and specific food business circumstances to ensure the outcomes of Transport Standards do not negatively impact the safety and quality of the food items dispatched from the business.

Implementation of Transport Standards must include a clear definition of responsibilities and authorities for all levels of participation by senior management, staff, and visitors to the site.

When implementing Transport Standards within food safety and quality system, you may wish to consider the following requirements before completion:

- Communication and display of the Transport Standards policy;
- Completion of Verification and Validation of Transport Standards development procedures;
- Availability of Transport Standards implementation procedures and work instructions;
- Availability of Transport Standards monitoring procedures and record templates where applicable;
- Availability of Transport Standards corrective and preventative action procedures and record templates where applicable;
- Availability of the Transport Standards verification schedule;
- Availability of Transport Standards verification procedures;
- Availability of the Transport Standards validation schedule;
- Availability of Transport Standards validation procedures;
- Completion of Transport Standards training procedures;
- Completion of product design and development requirements related to Transport Standards;
- Completion of process design and development requirements related to Transport Standards;
- Completion of training for team members who have responsibilities and involvement within Transport Standards;
- Completion of competency approval for team members who have responsibilities and involvement within Transport Standards.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Implementation requirements in relation to their items.

Transport Standards Implementation Key Points

- Transport Standards programs must be implemented to meet relevant Regulatory, Industry, and Customer standards and requirements;
- Your Transport Standards program must be fully implemented as per relevant documented Policies, Procedures and Work Instructions;
- The implementation of Transport Standards requires a commitment to the provision of resources by the Senior Management of your business;
- A properly implemented Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly implemented Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Monitoring

To review, confirm and document evidence of the implementation against documented limits.

Monitor

Monitoring: Monitoring is the act of reviewing and confirming measurable parameters of a defined process or product status.

Monitoring requirements within food industry sectors are generally identified against limits of acceptability defined within HACCP plans, implementation procedures, and work instructions. Monitoring usually includes some element of record-keeping, which may be maintained manually or through digital systems. It is important to consider that advancements in technology have spawned many systems and processes which are self-monitored and/or self-adjusted when variances are identified. Regardless of the system used, the goal of any monitoring activity is to provide sufficient evidence that any limit of acceptability has been met.

Traditional Transport Standards monitoring requirements include manual recording and the application of corrective actions when the results of monitoring are found to be outside acceptable limits. Corrective Actions should also generally be strongly linked to the monitoring process where applied to ensure full traceability of the applied actions.

Common monitoring activities and record formats may apply to Transport Standards:

- Vehicle and Container Pre-loading Inspection Checklist: Covers cleanliness, condition, odour, evidence of pests, and operation of refrigeration units.
- Transport Temperature Log: Records product and vehicle or container temperatures at loading, in transit where monitored, and at receipt.
- Delivery and Receipt Record: Records delivery details, product condition, and verification of seal numbers.
- Transport Seal Log: Records the application and verification of tamper-evident seals.
- Approved Supplier Management service provider listing, including contact details, justification for approval, and review details.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Monitoring requirements in relation to their items.

You may wish to visit the Transport Standards Templates section of haccp.com for examples of Transport Standards documentation, record, and resource formats commonly applied within food safety and quality systems.

Transport Standards Monitoring Key Points

- Monitoring provides real-time confirmation and evidence that your risk-based FS&Q Controls are effectively implemented;
- Transport Standards programs must be monitored to meet relevant Regulatory, Industry, and Customer standards and requirements;
- Monitoring of Transport Standards must be facilitated as per relevant documented Policies, Procedures and Work Instructions;

- Nominated monitoring records for Transport Standards must be maintained as per relevant documented Policies, Procedures, and Work Instructions;
- A properly monitored Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly monitored Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Corrective Action and Preventative Action

To apply “real time” interventions to documented monitoring limits.

Corrective Action and Preventative Action

Corrective Action: Corrective action is mandatory action to be taken when a deviation to the Quality System occurs, particularly in relation to a Critical Control Point.

Preventative Action: At any step in the process where a hazard has been identified, preventative action must be put into place to prevent re-occurrence.

Corrective Action and Preventative Action are implemented to ensure that any identified non-conformance issues are documented, investigated, and rectified within appropriate time frames. Corrective action is any action applied to regain control over a product, process, policy, or procedure that has been identified as being non-conforming outside nominated limits of acceptability. Preventative action is any action applied to prevent any identified non-conformance from reoccurring.

The outcomes of corrective and preventative actions should result in regained process control after effective application. Specified corrective actions are commonly linked to the HACCP Plans and the food business certification process.

Below are Corrective Action and Preventative Action examples which may be associated with Transport Standards related non-conformance:

- Review of the Transport Standards policy;
- Review of Transport Standards development procedures;
- Review of Transport Standards implementation procedures and work instructions;
- Review of Transport Standards monitoring procedures;
- Review of Transport Standards corrective and preventative action procedures;
- Review of the Transport Standards verification schedule;
- Review of Transport Standards verification procedures;
- Review of the Transport Standards validation schedule;
- Review of Transport Standards validation procedures;
- Review of Transport Standards training procedures;
- Segregation, assessment and, where necessary, disposal of product transported outside required temperatures;
- Re-training in Transport Standards;
- Review of management review activities to include Transport Standards as an agenda item;
- Initiation of product hold procedures where safety or quality may be compromised;
- Initiation of a product recall or product recall procedures where investigations show that there is a substantial safety and/or quality risk to the released product;
- Contacting stakeholders including customers regarding any confirmed or potential Transport Standards concerns involving their product.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Corrective Action requirements in relation to their items.

You may wish to visit the Corrective Action and Preventative Action section of haccp.com for examples of best practice applications for this food safety and quality system element.

Transport Standards Corrective Action and Preventative Action Key Points

- The implementation of Corrective Action and Preventative Action provides confidence that your FS&Q Program is effectively implemented and that FS&Q criteria are being met;
- Where deviations or variations are observed, Corrective Action and Preventative Actions must be facilitated to meet relevant Regulatory, Industry, and Customer standards and requirements;
- Corrective Action and Preventative Action of Transport Standards must be facilitated as per relevant documented Policies, Procedures and Work Instructions;
- Records of Corrective Action and Preventative Action for Transport Standards must be maintained as per relevant documented Policies, Procedures and Work Instructions;
- Proper application of Corrective Action and Preventative Action for your Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- Poor application of Corrective Action and Preventative Action for your Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Verification

To review and confirm documented monitoring and corrective actions against documented parameters.

Verify

Verification: The act of reviewing, inspecting, testing, checking, auditing, or otherwise establishing and documenting whether items, processes, services, or documents conform to specified requirements.

Verification is the detailed review of all food safety and quality system elements to confirm that they are effectively developed, documented, implemented, monitored, and reviewed. All food safety and quality system elements, including documented policies, procedures, training, HACCP plans, and their operational applications must be verified on an ongoing scheduled basis. The verification process commonly includes a defined schedule for which verification activities are required, how often they are conducted, who is responsible, and detailed documented procedures for each nominated verification activity.

The general goal of an established verification process is to ensure any systemic non-conformance issues are identified and rectified within an appropriate time frame. When non-conformance issues are identified through the verification process, Corrective Actions and Preventative Actions should be implemented to ensure they do not impact the effectiveness of the food safety and quality system.

The following examples of verification activities may apply to Transport Standards:

- Review of the Transport Standards policy;
- Review of Transport Standards development procedures;
- Review of Transport Standards implementation procedures and work instructions;
- Review of Transport Standards monitoring procedures;
- Review of Transport Standards monitoring records;
- Review of Transport Standards corrective and preventative action procedures;
- Review of the Transport Standards verification schedule;
- Review of Transport Standards verification procedures;
- Review of the Transport Standards validation schedule;
- Review of Transport Standards validation procedures;
- Review of Transport Standards training procedures;
- Review of Transport Standards performance since the last review and historically;
- Analytical testing of product or process to ensure the effectiveness of Transport Standards;
- Inclusion of Transport Standards as an agenda item within the Management Review Process.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Verification requirements in relation to their items.

You may wish to visit the Verification Activities section of haccp.com for examples of best practice applications for this food safety and quality system element.

Transport Standards Verification Key Points

- Your verification program provides evidence that your FS&Q Controls have worked;
- Transport Standards programs must be verified to meet relevant Regulatory, Industry, and Customer standards and requirements;
- The verification of Transport Standards must be facilitated as per relevant documented Policies, Procedures and Work Instructions;
- Nominated verification records for Transport Standards must be maintained as per relevant documented Policies, Procedures and Work Instructions;
- A properly verified Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly verified Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Validation

To confirm the documented monitoring or procedural limits.

Validate

Validation: The process of gathering evidence to provide a scientific basis for the documented act of demonstrating that a procedure, process, and activity will consistently lead to the expected results. It often includes the qualification of systems and equipment.

Validation is the provision of evidence to support the limits of control or acceptability for food safety or quality parameters nominated within systemic elements. Limits of control or acceptability are commonly included within documented food safety and quality systems elements such as procedures, HACCP plans, and specifications.

Common sources of validation include regulatory and legislative standards, finished product specifications and customer requirements, industry codes of practice and guidelines, verified and validated research, historical product, and process control outcomes, and analytical testing.

The general goal of an established validation process is to ensure any systemic non-conformance issues are identified and rectified within an appropriate time frame. When non-conformance issues are identified through the verification process, Corrective Actions and Preventative Actions should be implemented to ensure they do not impact the effectiveness of the food safety and quality system.

Validation activities are commonly defined within the verification schedules and procedures of established food safety and quality management systems.

The following examples may apply to validation of the limits of control or acceptability for Transport Standards:

- Confirmation of nominated food safety and food quality control limits for Transport Standards. These limits may apply to regulatory, industry, customer, or finished product specifications;
- Confirmation of analytical testing methods being used to confirm the effectiveness of Transport Standards and ensure the accuracy of outcomes.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Validation requirements in relation to their items.

You may wish to visit the Validation Activities section of haccp.com for examples of best practice applications for this food safety and quality system element.

Transport Standards Validation Key Points

- Your validation program provides evidence that your FS&Q Controls will work;
- Transport Standards programs must be validated to meet relevant Regulatory, Industry, and Customer standards and requirements;
- The validation of Transport Standards must be facilitated as per relevant documented Policies, Procedures and Work Instructions;
- Nominated validation records and supporting documentation for Transport Standards must be maintained as per relevant documented Policies, Procedures and Work Instructions;
- A properly validated Transport Standards program will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- A poorly validated Transport Standards program will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.

Training, Competency and Resources

Skills, knowledge and competency requirements to facilitate development, documentation, implementation, monitoring, corrective action, verification and validation of every Food Safety and Quality System Element.

Skills and Knowledge

Skills and Knowledge: Skills and knowledge are attributes of human interactions commonly linked to competency within any specified job-related task.

Training and competency requirements for Transport Standards must be ongoing, including regularly scheduled reviews to ensure the effectiveness of training and competency outcomes.

Team members who have defined responsibilities regarding Transport Standards should have knowledge including:

- Basic Transport Standards requirements;
- Positive outcomes of Transport Standards;
- Negative outcomes of a lack of Transport Standards;
- Current Transport Standards procedures, methods, and techniques;
- General operational, corporate, and social awareness regarding Transport Standards;
- Regulatory, industry, and customer requirements regarding Transport Standards.

Team members who have defined responsibilities regarding Transport Standards should have skills including:

- Competency regarding basic Transport Standards;
- Effective application of current Transport Standards procedures, methods, and techniques;
- The basic development, documentation, and implementation of HACCP and Prerequisite Programs within the food industry sector.

Team members who have defined responsibilities regarding Transport Standards should have access to resources including:

- Transport Standards training;
- Transport Standards associations and events;
- Regulatory standards, industry and customer information and updates regarding Transport Standards;
- Incidents within the food industry sector regarding Transport Standards;
- Commitment to Transport Standards by senior management;
- Suitably qualified food industry professionals with verified experience in Transport Standards;
- Effective communication systems including email, internet, and phone through which Transport Standards information can be sent and received within suitable timeframes.

If your food business supplies foodstuffs manufactured to a customer's specifications, it is important to consider any specific Transport Standards Training, Competency, and Resources requirements in relation to their items.

You may wish to visit the Training, Competency, and Resources section of haccp.com for examples of best practice applications for this food safety and quality system element.

Transport Standards Training, Skills, and Knowledge Key Points

- Your Training, Skills, and Knowledge program ensures all participating personnel, visitors and contractors have the required skills and knowledge to effectively facilitate the requirements of your FS&Q Program;
- Training, Skills and Knowledge programs for Transport Standards must be facilitated to meet relevant Regulatory, Industry, and Customer standards and requirements;
- Training, Skills and Knowledge programs for Transport Standards must be facilitated as per relevant documented Policies, Procedures and Work Instructions;
- Training, Skills and Knowledge records for Transport Standards must be maintained as per relevant documented Policies, Procedures and Work Instructions;
- Properly applied Training, Skills and Knowledge programs for Transport Standards will provide a strong framework for your business to maintain compliance with relevant Regulatory, Industry, and Customer standards and requirements;
- Poorly applied Training, Skills, and Knowledge programs for Transport Standards will not fully support your business and may contribute to significant non-compliance against Regulatory, Industry, and Customer standards and requirements.



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