Interpretation Guide for Audit Checklist Trader and Broker of SGF International e.V.

Content

I. Introduction

The intention of this document is to line out main principles of quality management for trade and brokerage companies, members of the Voluntary Control System of SGF International e.V. The application of company internal rules to assure respective quality goals contributes to successful achievement of certification of the Voluntary Control System of SGF International e.V..

It is addressed to general management and quality management to support the implementation of HACCP principles (Hazard Analysis and Critical Control Points) in the company. Parts of this document can also be used to train other peoples in the company for a better understanding of quality rules which are important for their operational work.

This document considers different business models and sizes of companies for the organisation of the quality management. However, it can be a general guide only. Every company must define its adaptation of the described aspects.

It is self-understanding that complex company structures and activities need a more complex quality management system and related documentation. In general documentation should be as short as possible and as precise, as necessary.

Most subjects of the SGF audit checklist need defined company rules and corresponding records to demonstrate that these rules are followed during the daily business. When establishing a quality documentation two control questions can help to keep the focus on short and precise messages:

1. Does a written procedure allow that a new colleague or replacing person can carry out a job correctly and can establish related records?

2. Do documentation and records allow to trace that any operation was done as defined by predefined rules?

Companies to be audited must be aware that these two points - existence of suitable quality rules and documentation of their application, are basics to carry out any quality audit.

SGF audits focus mainly on assurance of product conformity and safety, but it can make sense to implement quality rules to other important aspects, e.g., customer service or commercial strategy, too.

II. The SGF Audit Checklist for Traders and Brokers

During an SGF audit, the fulfilment of certain quality requirements is checked. Depending on the type of company activities the extend of the applied checklist can differ. For example, a trader that does not ask third party service provider to blend or repack products does not need respective quality assurance rules.

Some questions are so called exclusion criteria (EC). If one of these questions is failed, the whole audit will be considered as failed.

Furthermore, a general evaluation through a scoring system for all questions describes the degree of achievement. If a minimum score is not reached the audit is also not successful.

The role of SGF auditors is to describe the situation in a company by formulating an audit report that is transferred to SGF headquarters. An auditor gives no final assessment. The technical management of SGF evaluates the report and decides if overall requirements are successful met. If an audit is failed, the company gets the possibility to adjust its quality system within a defined time. Successfully implemented corrective actions allow to pass an audit if sufficient improvement is demonstrated by the auditee.

A participant of the Voluntary Control System needs a successful audit to be certified.

The audit checklist is organised in eight different paragraphs:

1) General Information
2) Quality System
3) Product responsibility
4) Product blending, Rework, Repacking
5) Product storage
6) Product transport
7) HACCP (Hazard Analyses and Critical Control Points)
8) Traceability

A few questions in the checklist do not contribute to the audit score. Some questions define the context of the company as background information for the evaluation. Certain questions are skipped given that the company's context makes them irrelevant.

Several questions require the copy of documents as evidence and for final evaluation. Such copies and every other detail information is kept strictly confidential. Also, the result of the audit is communicated to the audited company only, never to third parties.

The following chapters and questions of the audit checklist are commented individually. Paragraph numbers correspond to the numeration of questions in the checklist.

1 General information

Some company information is collected to better know and understand the context of the company. This is helpful for SGF for further communication and evaluation. Answers in this chapter do not contribute to the final score of the audit.

2 Quality System

2.1 Does the company works following a quality manual to assure food safety?

A quality manual is a collection of written procedures and working principles for processes and operations of the company. The quality manual can be part of a larger company manual.

For a good efficiency, a quality system needs the commitment of the senior management to the quality objectives of the company. Goals like food safety, assurance of product conformity, fair business behaviour should be supported by the senior management.

The quality manual should comprise at least:

- Description of all processes with influence on product safety, quality and traceability (e.g., supplier selection, purchase, sales, logistic, external service provider for transport, storage, blending, repacking or rework)

- Rules how to carry out and how to document operations correctly. Therefore, individual Standard Operation Procedures (SOPs) are a widely used way.

  SOPs contribute to standardised processes and allow the defined handling of business operations. It is important that the SOP is precise enough to ensure quality goals, but do not block necessary and justified flexibility in the daily business. Strictness on important quality aspects is imperative, free adaptation to specific situation may be possible in a pre-defined frame. Stay pragmatic, but do not lose the focus on overall objectives.

A quality manual can be divided in different chapters from which some correspond to so called prerequisite programmes (PRPs) like “supplier assessment”, “logistic” or “traceability/recall procedure”. In a processing factory much more PRPs exist like “processing”, “personnel hygiene”, “maintenance” etc.

A quality manual is not an unchangeable document, but a constantly developing one. Regular revision and confirmation of existing provisions are required because the situation in a company or the external context can change. Furthermore, a quality system should tend to undergo continuous improvement, also by learning from errors or problems. Rules of revision, modification and administration of the quality system are part of the system, too.

Depending on the size and the business model of a company a quality manual can be a short or more extended document. Every company should analyse its own situation and decide on the way to standardise and document processes related to product conformity and food safety. What could be perceived as a time consuming administrative extra work, will finally allow structured development of a company and better reaction in case of claims, discussions or any problem. Today it is minimum standard in the food sector to have implemented a food safety management system.

2.2 Purchase of goods: Is there a clear differentiation possible between IRMA approved suppliers and other suppliers?

Goods from suppliers which are not SGF/IRMA certified are Non-System Goods. Certified suppliers are listed in the SGF member portal (https://juicebase.sgf.org/). This concerns all semi-finished fruit and vegetable-based products (juices, purees, concentrates, bases, etc.).

Note that System Goods get the status of Non-System Goods after handling by any Non-SGF certified service provider, if the operation is done in unsealed products or if seals are broken, e.g., for

blending or repacking. Additional quality assurance measures are needed to keep the status of System Goods before delivery to customers.

The differentiation of System Goods and Non-System Goods is one of the key aspects in the Voluntary Control System to assure safety and authenticity. Therefore, the question is an **exclusion criterion**.

The requirement is fulfilled, if the internal documentation makes easily clear to company co-workers if Non-System good is handled.

2.3 With which frequency the status of IRMA approval of suppliers is checked?

There must be a rule in the company that assures a suitable frequency to check IRMA certifications of suppliers.

One possibility could be to link the check to the commercial activity. For example, there could be a rule that at every new contract the status of a supplier is re-checked. For long term contracts a check linked to individual deliveries could be more appropriate.

Please note that SGF certification can be withdrawn at any moment and the validity of a SGF certificate must be controlled in the SGF member portal (https://juicebase.sgf.org/).

2.4 Is it clearly indicated to the customer if any goods are Non-System Goods?

A customer ordering fruit or vegetable products from a SGF certified trader or broker can expect to get System Goods. Nevertheless, it is possible that in exceptional cases a company is dealing with Non-System Goods too. Therefore, the customer must clearly recognise the difference between System Goods and Non-System Goods on offers and contracts. Non-System Goods would generate additional quality assurance measures by the customer. This question is an **exclusion criterion**.

2.5 Where applicable, in case that one part of a blend is not System Good, is the whole blend considered as Non-System Good by the company?

Blending of System Goods with Non-System Goods results always in a final product **which is not classified as System Good**. Additional analytical authenticity checks according to SGF rules are required. This requirement must be covered by company rules when blending of System Goods with Non-System Goods could happen.

In such cases it is more efficient to run the required analytical controls on individual parts of a blend than of the mixed final products. Some deviation could be missed and detected after sales when the final product is checked with other more sensitive analytical methods.

2.6 Is there a documented procedure to assure that authenticity analyses are carried out for Non-System Goods?

The question is relevant if the company handles Non-System Goods regularly or in exceptional cases. It is recommended to foresee this case in the own quality manual.

It is mandatory to run analytical conformity controls for purchased Non-System Goods. The frequency of analyses for the purchase of Non-System Goods is defined in the rules of the Voluntary Control System (Implementing provisions).

For contracts up to 100 MT (metric tons) per contract at least one sample must be analysed.

For contracts up to 500 MT per contract at least two samples from two different deliveries must be analysed.

For contracts with more than 500 MT per contract at least two samples from two different deliveries per part of 500 MT must be analysed.

This question is an **exclusion criterion**.

2.7 Is it assured that conformity analyses of Non-System Goods have a sufficient scope?

SGF provides a conformity matrix (see annexe 1) which indicates a minimum of analyses per fruit type to control authenticity and safety. However, complementary analyses can be recommended, if any doubt arises after first controls, for any other specific reason or public communication (e.g. SGF newsletters).

The SGF hotline can be contacted for any question in this regard.

2.8 Is it assured that conformity analyses of Non-System Goods are interpreted correctly?

Authenticity and safety analyses make only sense if results are interpreted by competent experts. A similar hint is also given in the AIJN Code of Practice for fruit product reference data. Therefore, the company must define rules and responsibilities to handle and validate analytical results.

Respective expertise can be inside the company itself or received through external support. Often, experienced, and specialised commercial laboratories deliver interpretation. SGF members can use the SGF hotline for any question and to consult the regional specific database of authentic samples in the SGF member portal.

2.9 Is a procedure defined in case conformity analyses are not satisfying? (Treatment of non-conform products)

Every food business operating company should have rules on how to act if quality problems are detected by customers, own controls, or third-party controls (e.g. SGF, authorities). Depending on the seriousness of a quality issue these rules can allow different case-to-case options. Food safety issues need strict rules including the designation of responsibilities inside the company and how to identify and block nonconform products.

Note that it exists in the European Union an obligation to notify national authorities if any product on the Common Market is or is probably unhealthy.

> *Regulation 178/2002, Art. 19, 1:*
> *"If a food business operator considers or has reason to believe that a food which it has imported, produced, processed, manufactured or distributed is not in compliance with the food safety requirements, it shall immediately initiate procedures to withdraw the food in question from the market where the food has left the immediate control of that initial food business operator and inform the competent authorities thereof. (...)"*

The SGF hotline can assist you in the decision if a notification is required or not. For example, every exceedance of a pesticide maximum residue limit (MRL) makes that a product is illegal and unmarketable. However, the measured pesticide concentration can be above the MRL and below a concentration that would harm consumer health. In such cases notification is not necessary.

2.10 Is the correct application of defined procedures tested regularly, e.g. through an internal audit?

Annual internal audits have the objective to check if company rules are respected and which procedure can be improved. The audit is called "internal" because results are used internally for correction and improvement. During the audit, the application of company rules is verified based on records and documentation and with co-worker interviews.

The internal auditor should be experienced and can be a person from inside or outside the organisation. However, no person should audit his own work.

It can be a challenge to organise an internal audit for very small companies. A best practice solution for such companies could be an audit through an external qualified person, for example, quality consultant. To keep effort and benefit in reasonable relation, very small companies could develop alternative concepts of regular process review like regular inspections according to a developed checklist. However, it should be demonstrable during the SGF audit that the objective to verify application of rules is reached.

2.11 In case that failures or potential of improvements have been identified, is it assured that corrective actions are followed up correctly? (Continuous improvement)

A register or list of quality observation and required corrective actions is obligatory part of the quality system. Problems and possible improvements should be registered, independently their source:

- Customer claims
- Internal audits
- External audits (e.g., SGF audit)
- Analyses
- Observation in daily work

Target of corrective actions is a continuous improvement of company processes to avoid repetition of issues. A fictive example of such a register in table format is given in annexe 2.

Two types of expected actions exist:

- Immediate action: The concrete issue should be solved by blocking a product, rework, commercial arrangement, etc.

- Proactive action: Where possible with a reasonable effort-benefit relation, changes in own procedures to avoid similar problems in the future. Examples: Improved supplier approval, selection of service providers, contract stipulations, loading instructions, improved internal or external communication, product specification, training of own personal, analytical control plan, etc.

  Note: In quality literature terms “corrective action” and “preventive actions” could be used for the above two named actions, but confusion can arise, because the definition can differ depending on source and context.

It can be decided that no action is taken in cases with minor severity or if no suitable measures are possible (e.g., container damaged during loading onto a vessel).

An additional advantage of problem documentation is the possibility of statistics for supplier, service provider or even customers to better frame commercial conditions.

2.12 When was the last revision or update of procedures?

Some rules in a company do not change during years, others evolve frequently. Nevertheless, every rule must be checked regularly if adaption to new frame conditions is necessary (e.g. change of own processes, new supply chain, new market situation, emerging risks, changes in legislation or SGF rules, ...). The review must be documented, which could be checked by the auditor.

It is useful to define for any process or process step reasonable revision intervals. For all processes relevant to food safety, at least an annual revision is obligatory.

Changes of any company procedure must be documented, and the quality manual must be available for co-workers in its currently valid version.

2.13 Does the company have an allergen policy?

Most fruit and vegetable products are allergen-free. However, the company must apply measures to assure correct allergen declaration. In the juice industry, celery products or sulphur dioxide (SO_2), both

are typical examples for allergens that could be present in plants and be considered as a risk of cross-contamination.

For a trade or brokerage company in most cases a self-assessment questionnaire or contractual assurance from supplier and service provider are the only means to get assurance of the allergen risk. Cross-contamination in blending stations, during transport companies or in warehouses must be considered, too.

An allergen policy must be revised and be re-validated at least once a year. The revision of the policy should consider possible changes of supply base and if allergen legislation was changed. Allergen legislation can be different in European Union and other countries. For the type of products under the scope of SGF, EU rules are generally sufficient or even stricter than legislation in other countries. Some customers have larger scope of allergens that SGF or other certification systems are checking. However, information to customers must be correctly assessed.

2.14 Is it assured that for all products counter samples are stored at least for 12 months, but minimum until the best before date?

Retained samples of delivered goods are obligatory. The sample can be stored physically at supplier's plant. In case it is an approved IRMA supplier, no action from trader/broker is necessary for back-to-back deliveries without prolonged intermediate storage through the trader.

In any case, samples must be available for SGF routine controls and in case of investigation of detected non-conform products in the market. Availability of counter samples can, for example, prove the source of any fraud or technical problem at a specific supplier which helps the company in case of resource claims.

3 Product responsibility

3.1 Is the company owner of handled products (all products or partially)?

This question does not contribute to the audit score. It helps to understand the business principle of the company for a correct audit evaluation. Answer would be "Yes" if all products or a part of them are traded as owned products. Pure commission-based brokerage businesses should answer “No”.

3.2 Is the company legally responsible for the quality delivered (all products or partially)?

This question is refining the information about business principles and contributes neither to audit scoring.

In most cases, a company which is selling self-owned products or facilitating the trade of any other product as an agent or broker is liable for conformity and quality of traded products. The company must assure correctness of product declaration and product specification in communication with customers or potential customers in offers, contracts and delivery documents. The own quality system must comprise procedures assuring that non-conform products are avoided.

Only a very few brokerage business models discharge the broker from any responsibility for product quality. This should be clearly demonstrable to answer "No" to this question. This is given if all quality and logistic related details are subject of agreements directly between supplier and customer. In such cases the added value of the broker consists in bringing together potential contract partners only. He does not issue any offer or sign up for any product specification.

4 Product blending, rework, repacking

Chapter 4 of the audit checklist is dealing with potential fraud and safety risks linked to operational processes of product handling carried out by third parties on demand of the trade or brokerage company.

Some questions can be skipped if it is clear from previous questions that a company do not order such services at third parties.

4.1 Does the company order at third parties' services to blend and/or to rework products and/or to repack?

After answering: If answer is "No", continue with question 5.1. (skip 4.2 to 4.5.)

Blending different items of semi-finished goods, rework or repacking can create an added value and contribute to fulfilment of any customer specification. Because a trade or brokerage company does not have own operation facilities these actions must be carried out by third party service providers.

Conditions of subcontracted operations must be under control to maintain food safety and authenticity. The ability of any third-party service provider must be assessed.

The present question itself is not scored.

4.2 Is it assured that the product is not substituted or falsified during operation? (Authenticity)

After answering: If all service providers have SGF certification, continue with question 5.1. (skip 4.3. to 4.5.)

If any product is opened from sealed containers and handled openly in any way, a potential risk of fraud exists (e.g. substitution, addition). If these operations are carried out by approved SGF suppliers,

the risk is under control. For any other supplier, a food fraud risk assessment and respective quality assurance measures are required because the product is no System Good after the handling, independently from its initial status. According SGF rules conformity analyses must be applied. See also comments for questions 2.4 to 2.8.

In some cases of repacking (without blending) an analytical identity check between initial and final product can replace full conformity analyses if the initial product was System Goods. This would be possible if the product is homogenised and sampling before and after operation is possible and will give similar results. SGF hotline can assist in this regard.

This is an **exclusion criterion.**

4.3 Is it assured that good safety and hygiene conditions are applied during operation?

After answering: If all service providers have valid SGF certification or certification of a food safety management system according to a GFSI (Global Food Safety Initiative) recognised certification scheme or to DIN EN ISO 22000, continue with question 5.1. (skip questions 4.4 and 4.5.)

Hygiene and safety conditions must be satisfying in operation facilities of third-party providers. If any certification can give the assurance that this is the case, no further action is necessary in this regard. Certification of a food safety management system according to a GFSI (Global Food Safety Initiative) recognised certification scheme or to DIN EN ISO 22000 are suitable. The certification must apply to the respective product scope.

Without suitable certification of the service provider, the trade or brokerage company must assure that operational conditions do not harm food safety and the microbiological quality of products. This can be done for example by regular supplier audits through experienced persons. Historical long-term experiences can be considered to fix an appropriate frequency of controls. For a new service provider annual frequency of controls would be best practice but not always obligatory. Reasons for longer period must be demonstrable by a suitable risk assessment. For enlarged control frequencies it can be helpful to evaluate self-assessment questionnaires filled in by suppliers in between on-site controls.

4.4 Do you assure that goods are stored safely by the service provider? (e.g. temperature control)

Storage conditions for products handled by any operational service provider must be safe. Therefore, storage conditions are obligatory part of the supplier assessment discussed in paragraph 4.3. For several products storage temperature control is an important parameter and must be considered.

4.5 Do you assure that goods are handled and stored secured by the service provider? (Food defense)

Food defense measures try to protect from intentional actions to harm food safety like sabotage or terrorism. Every food handling facility must be aware about this possibility and take suitable actions. It is part of the supplier assessment for service provider to check if suitable measures are implemented. Such measures must be in relation with the effective risk. For example, it is general minimum standard that visitors are registered, and buildings are locked to avoid intrusion of foreign persons. Assurance of food defense conditions can be part of a separate declaration by suppliers.

5 Product storage

A company can use the third-party service for product storage. Even if storage of closed and sealed containers presents a minor risk a minimum level of hygiene and quality applied in the storage site is required. In unsafe condition the outside of contaminated containers could transport pathogens in higher concentration into food processing facilities of customers and could increase the risk of cross-contamination.

Some questions can be skipped if it is clear from previous questions that a company do not order storage at third parties.

5.1 Does the company order at third parties to store products?

If answer is "No", continue with question 6.1.

If the company works only with back-to-back deliveries without intermediate storage questions of chapter 5 are not relevant and should not be checked by the auditor.

5.2 Do you assure that the product is not substituted or falsified during storage? (Authenticity)

After answering: If all storage providers have valid SGF certification continue with question 6.1. (skip questions 5.3 and 5.4.)

The risk of product substitution or falsification is low for drums or containers with numerated seals if control of seals is included in normal handling processes. Procedures should include defined actions in case controls give reason to doubt on the integrity of the product.

If no other form of storage is used, no further action to assure authenticity is required.

Where bulk deliveries are stored and access to the product is possible, a higher risk of food fraud exists. The situation is comparable with the situation described for blending and rework. If the storage provider is SGF certified, no further action is necessary. Otherwise, analytical control is required in form of conformity analyses of the outgoing product according SGF rules for Non-System Goods or,

where possible, through given product identity check of homogenised products before and after storage. The SGF-hotline can assist to determine a suitable analytical scope.

This question is an **exclusion criterion.**

5.3 Do you assure that goods are stored safely? (e.g. temperature control, hygiene condition)

After answering: If all service providers have valid SGF certification or certification of a food safety management system according to a GFSI (Global Food Safety Initiative) recognised certification scheme or to DIN EN ISO 22000, continue with question 6.1. (skip question 5.4.)

Product safety can be affected by non-appropriate storage. If a product needs temperature control, correct storage conditions are necessary. SGF certification and certification of a food safety management system according to a GFSI (Global Food Safety Initiative) recognised certification scheme or to DIN EN ISO 22000 can assure these aspects.

Otherwise, depending on the identified risk possible action to approve a storage provider can be based on supplier audits through experienced persons or in some cases through self-assessment questionnaires. Historical long-term experiences can be taken into account to fix an appropriate frequency of controls.

5.4 Do you assure that goods are stored secured? (Food defence)

Food defence measures try to protect from intentional actions to harm food safety like sabotage or terrorism. Every food handling facility must be aware about this possibility and take suitable actions. It is part of the supplier assessment to check if suitable measures implemented. Such measures must be in relation to the effective risk. For example, it is general minimum standard that visitors are registered, and buildings are locked to avoid intrusion of foreign persons. Assurance of food defence conditions can be part of a separate declaration by suppliers.

6 Product transport

If transport is organised by the trade or brokerage company it is responsible for the approval of the transport provider. The approval must assure that goods are transported in safe and secured condition.

6.1 Does the company order at third parties to transport products?

After answering: If answer is "No", continue at question 7.1.

If the company never organises the transport of traded goods questions of chapter 6 are not relevant and should not be checked by the auditor.

6.2 Do you assure that goods are transported safely? (e.g. temperature control)

There are some risks that need consideration when choosing and approving a transport company:

- Bad general cleanliness and hygiene condition
- Product contamination for bulk transport (cleaning procedure)
- Use of tank units that are not dedicated only to food transport
- Inappropriate transport temperature
- Possibility of uncontrolled access to the load by foreign persons

Nature of the product and kind of transport are important aspects for the approval of transport companies. For example, transportations in sealed drums present less risks than transporting in a bulk tank.

A transport provider with valid SGF certification or certification of a food safety management system according to a GFSI recognised certification scheme or to DIN EN ISO 22000 can generally be approved without own controls.

Otherwise, a risk evaluation should be carried out and suitable control measures would be required. Such measures could be quality audits through an experienced auditor, however in most cases it seems appropriate to assure the quality of transport by signed transport agreements with the transport provider. Risk evaluation and quality assurance measures must be demonstrable during the audit.

6.3 In case of bulk transport, do you assure that tanks and containers are cleaned adequately?

Bulk transport is probably the riskiest type of transport and need assurance of correct cleaning before loading and a secured transport without possible access to the product by unauthorized persons. Control of cleaning certificates for tank transports is required. The nature of preloads can be an important aspect.

Cleaning in cleaning station with a valid SGF certificate is recommended. Otherwise, a risk assessment must be carried out to determine which quality assurance measure must be implemented by the company. Agreed loading and unloading procedures with supplier and/or customer and/or transportation companies can be part of the quality policy.

7 HACCP (Hazard Analyses and Critical Control Points)

According to the European Regulation (EC) No 178/2002 trade and brokerage companies are „food business operators" with the responsibility to ensure requirements of food law. Some of these requirements are defined in Regulation (EC) No 852/2004, thereof the obligation to implement HACCP principles.

Regulation (EC) No 178/2002, article 3.

"…

2. 'food business' means any undertaking, whether for profit or not and whether public or private, carrying out any of the activities related to any stage of production, processing and distribution of food;

3. 'food business operator' means the natural or legal persons responsible for ensuring that the requirements of food law are met within the food business under their control;

…"

Furthermore Regulation (EC) No 852/2004 on the hygiene of foodstuffs stipulate in article 1:

"…

This Regulation lays down general rules for food business operators on the hygiene of foodstuffs, taking particular account of the following principles:

(a) primary responsibility for food safety rests with the food business operator;

…

(d) general implementation of procedures based on the HACCP principles, together with the application of good hygiene practice, should reinforce food business operators' responsibility;

(e) guides to good practice are a valuable instrument to aid food business operators at all levels of the food chain with compliance with food hygiene rules and with the application of the HACCP principles;

…

(g) it is necessary to ensure that imported foods are of at least the same hygiene standard as food produced in the Community, or are of an equivalent standard.

…"

The HACCP can be seen as a core part of a larger quality system in a company which comprises also good practice policies and rules to apply in the company.

Very roughly explained, HACCP is an analysis of all procedures in a company to identify food safety risks and a counter check if good practices that are applied in the company are keeping any risk at an acceptable level. If the risk of any hazard presence is not maintained at an acceptable level, the process should be modified or frequent suitable controls should be implemented at identified Critical Control Points (CCPs), together with applicable measures if a CCP is out of control.

HACCP principles are largely explained in the literature and some differences exist between different sources. A well-recognized description is given by FDA (U. S. Food & Drug Administration). "HACCP Principles & Application Guidelines" are published on their website:

https://www.fda.gov/food/hazard-analysis-critical-control-point-haccp/haccp-principles-application-guidelines

For fruit and vegetable juices is published on the same website a special regulation for a Juice HACCP "Hazard Analysis and Critical Control Point (HAACP); Procedures for the Safe and Sanitary Processing and Importing of Juice":

https://www.federalregister.gov/documents/2001/01/19/01-1291/hazard-analysis-and-critical-control-point-haacp-procedures-for-the-safe-and-sanitary-processing-and

Most detailed information that can be found on HACCP are for processing companies and not for trade and brokerage companies. Nevertheless, principles can be transferred to trade and brokerage processes and the analysis can be carried out. Annex 3 gives further insights about first steps to implement HACCP principles in a trade or brokerage company.

Usually, food safety is kept under control by the manufacturer. This links the control of the safety risk to the supplier approval procedure of the trader or broker.

The approval of suppliers and service providers is a central part of good operational practices for trade or brokerage companies and plays an important role in their HACCP.

Every quality system is unique, and a specific aspect could be covered by different rules of good manufacturing practices.

Questions in chapter 7 of the audit checklist have the objective to check the status and completeness of HACCP implementation in the company. Do not hesitate to consult the SGF hotline for further information.

7.1 Has the company an implemented HACCP?

The documentation of the HACCP will be checked by the auditor to state if it is in line with general HACCP principles.

7.2 Does the HACCP cover all relevant aspects?

Depending on business principles of a company the HACCP should analyse all processes relevant to food handling and food safety, for example:

- Approval of product supplier
- Approval of service provider
- Documentation and traceability
- Logistics
- Communication to customers / product specifications
- etc.
-

8 Traceability

A good traceability system is important to ensure food safety and authenticity.

Questions in this chapter cover documented traceability upstream (back to the supplier) and downstream (forward to the customer) the value chain.

8.1 Starting from a batch delivered to a customer, is it possible to identify corresponding batch(es) on supplier side?

Minimum legal requirement is one step back and for in the supply chain. For trade of Non-System Goods see also following question.

8.2 Is it possible to identify the fruit/vegetable processor for any purchase of Non-System Goods?

In case of purchase of Non-System Goods, the primary processor of fruits or vegetables must be known according to SGF rules. In case of blends this is to be assured for all parts of the blend which are Non-System Goods**.**

This question is an **exclusion criterion.**

8.3 Starting from a batch delivered to a customer, could it be checked if the corresponding batch unit from the supplier has been split up and another part thereof was delivered as separate batch to the same or any other customer, or if it is still in storage?

Traceability becomes more complex if any batch is divided in different parts or if any batch is composed by two or more parts. In case of a safety recall from customer side all deliveries to customers of products from the corresponding supplier batch must be identifiable.

Example: 72 drums purchased, 32 of them were delivered to customer A, 40 to customer B. Customer A is recalling for a serious contamination issue. The delivery to customer B must be identifiable.

8.4 Starting from a purchased batch on supplier side, is it possible to identify corresponding batch(es) on customer(s) side?

In case of a safety recall from supplier side, all deliveries to customers of products from the concerned supplier batch must be identifiable.

8.5 Does the company is carrying out recall exercises? (Mock recall)

A mock recall is an internal exercise on a fictive safety issue. It is not a simple traceability check, but it includes decision taking, if this situation is to be treated as serious recall (needs mostly the implication of senior management). Where necessary to fulfil duty of precaution, a compilation of respective traceability data and fictive information to supplier(s), customer(s) and authorities is part of the exercise.

The exercise should be fulfilled as fast as possible (max. two hours limit is recommended, but a good traceability IT system can give data in some minutes).

The exercise must be documented, a conclusion if the mock recall was satisfying or not and potential steps of improvements must be noted in an exercise report.

8.6 Is there a full traceability of all products used in a blend or assemblage of packing units?

In case there is no direct product delivery, all intermediate steps of batch division or assemblage must be completely traceable. This includes batch identities, technical product specification of all parts, applied operational steps and mass balances.

8.7 Does the company is asking the supplier about participation at FRAPP (Fruit Risk Assessment Programme for Pesticides, supervised by SGF)?

Any SGF fruit/vegetable processor should participate at FRAPP as additional quality assurance measure. By participating the processor collects information about applied pesticides on processed fruits or vegetable, and he benefits from an individual proactive survey carried out by SGF to identify emerging conflicts with EU legislation. The request for participation from trader or broker side supports the FRAPP system and contributes to more safety of traded products.

This requirement does not apply to purchases from traders or secondary processors without own purchase of unprocessed fruits or vegetables.

SGF minimum analytical scope according DOC_OP_013_V3_SGF_Conformity_Matrix (1/3)

Parameter	Determination method	Acerola	Apple	Apple, NMR-option	Apricot	Aronia	Banana	Beetroot	Blackberry	Blueberry	Carrot	Cherry, sour	Cherry, sour, NMR-option	Cherry, sweet	Coconut water	Cranberry/Europ. Cranb.	Currant, black	Currant, red	Elderberry	Gooseberry	Grape red/ white
relative density 20/20	IFU 1 or oscill. u-tube	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
brix (table)	IFU 8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
soluble solids	IFU 8	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
glucose	enzymatic	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
fructose	enzymatic	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
sucrose (enzymatic)	enzymatic	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	
sucrose (IC)	Ionchromatography																				x
titrat. acidity (as cit.ac. pH 8.1)	IFU 3	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
sulphur dioxide, total	IFU 7a														x						x
quinic acid	IC/HPLC															x					
shikimic acid	IC/HPLC																			x	
L-malic acid	enzymatic	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
tartaric acid	IFU 65 (not IFU 20)																				x
tartaric acid	IC/HPLC																				
citric acid	enzymatic	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
isocitric acid	enzymatic	x			x	x	x	x	x	x					x	x	x	x	x	x	
L-ascorbic acid	IFU 17	x				x									x		x			x	
sodium	AAS	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
potassium	AAS	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
calcium	AAS	x	x	x	x	x	x	x	x	x	x				x	x	x	x	x	x	x
magnesium	AAS	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
nitrate	IFU 48	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
phosphate/total phosphorus	IFU 50	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
sulphate	IFU 36														x						x
sorbitol	enzymatic		x	x	x	x						x	x	x							
sorbitol	IC/HPLC								x	x					x	x	x	x	x	x	
formol number	IFU 30	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
aspartic acid	enzymatic		x																		
proline	IFU 49		x					x													
water-soluble pectins	IFU 26																				
lactic acid	IFU 53										x										
anthocyanins fingerprint	HPLC								x	x		x	x	x		x	x	x			
oxalic acid	IC/HPLC																				
D-mannitol	IC/HPLC																				
SGF-Profiling ™	^{1}H-NMR			x									x								
Internal Relations																					
ratio	calculated	x	x		x	x	x	x	x	x	x	x		x		x	x	x	x		x
total sugar	calculated	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
sugar-free extract	calculated	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
glucose-fructose ratio	calculated	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
% sucrose of the sugar	calculated	x	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
citric acid-isocitric acid ratio	calculated	x			x	x	x	x	x	x					x	x	x	x	x	x	
formol number/proline	calculated																				
free tartaric acid	calculated																				x
Food Safety Parameters																					
mercury, cadmium, lead, arsenic		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
iron																					x
patulin			x	x																	
ochratoxin A																					x
gluconic acid & glycerol																					x
ethephon																					
pesticide screening		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

SGF minimum analytical scope according DOC_OP_013_V3_SGF_Conformity_Matrix (2/3)

Parameter	Determination method	Kaki	Kinnow	Kiwi	Lemon	Lime	Lychee	Mandarin	Mango	Orange	Orange, NMR-option	Orange, blood	Orange, blood, NMR-option	Papaya	Passion fruit	Peach	Pear	Pineapple	Plum	Pomegranate	Prickly pear
relative density 20/20	IFU 1 or oscill. u-tube	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
brix (table)	IFU 8	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
soluble solids	IFU 8	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
glucose	enzymatic	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
fructose	enzymatic	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
sucrose (enzymatic)	enzymatic	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
sucrose (IC)	Ionchromatography																				
titrat. acidity (as cit.ac. pH 8.1)	IFU 3	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
sulphur dioxide, total	IFU 7a																		x		
quinic acid	IC/HPLC																				
shikimic acid	IC/HPLC																				
L-malic acid	enzymatic	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
tartaric acid	IFU 65 (not IFU 20)																				
tartaric acid	IC/HPLC																			x	
citric acid	enzymatic	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
isocitric acid	enzymatic	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
L-ascorbic acid	IFU 17									x	x	x	x	x					x		
sodium	AAS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
potassium	AAS	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
calcium	AAS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
magnesium	AAS	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
nitrate	IFU 48	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
phosphate/total phosphorus	IFU 50	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
sulphate	IFU 36																				
sorbitol	enzymatic															x	x		x		
sorbitol	IC/HPLC						x													x	x
formol number	IFU 30	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
aspartic acid	enzymatic																				
proline	IFU 49	x	x					x		x		x					x				
water-soluble pectins	IFU 26		x		x	x		x		x		x			x			x			
lactic acid	IFU 53																				
anthocyanins fingerprint	HPLC											x	x							x	x
oxalic acid	IC/HPLC																			x	
D-mannitol	IC/HPLC																			x	
SGF-Profiling ™	^{1}H-NMR										x		x								
Internal Relations																					
ratio	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
total sugar	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
sugar-free extract	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
glucose-fructose ratio	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
% sucrose of the sugar	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
citric acid-isocitric acid ratio	calculated	x	x	x	x	x	x	x	x	x		x		x	x	x	x	x	x	x	x
formol number/proline	calculated									x		x									
free tartaric acid	calculated																				
Food Safety Parameters																					
mercury, cadmium, lead, arsenic		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
iron																					
patulin																	x				
ochratoxin A																					
gluconic acid & glycerol																					
ethephon																		x			
pesticide screening		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

SGF minimum analytical scope according DOC_OP_013_V3_SGF_Conformity_Matrix (3/3)

Parameter	Determination method	Raspberry	Rhubarb	Sea buckthorn	Soursop (Guanabana)	Strawberry	Tomato	Water melon
relative density 20/20	IFU 1 or oscill. u-tube	x	x	x	x	x	x	x
brix (table)	IFU 8	x	x	x	x	x	x	x
soluble solids	IFU 8	x	x	x	x	x	x	x
glucose	enzymatic	x	x	x	x	x	x	x
fructose	enzymatic	x	x	x	x	x	x	x
sucrose (enzymatic)	enzymatic	x	x	x	x	x	x	x
sucrose (IC)	Ionchromatography							
titrat. acidity (as cit.ac. pH 8.1)	IFU 3	x	x	x	x	x	x	x
sulphur dioxide, total	IFU 7a							
quinic acid	IC/HPLC							
shikimic acid	IC/HPLC							
L-malic acid	enzymatic	x	x	x	x	x	x	x
tartaric acid	IFU 65 (not IFU 20)							
tartaric acid	IC/HPLC							
citric acid	enzymatic	x	x	x	x	x	x	x
isocitric acid	enzymatic	x		x	x	x	x	x
L-ascorbic acid	IFU 17			x	x			
sodium	AAS	x	x	x	x	x	x	x
potassium	AAS	x	x	x	x	x	x	x
calcium	AAS	x		x	x	x	x	x
magnesium	AAS	x	x	x	x	x	x	x
nitrate	IFU 48	x	x	x	x	x	x	x
phosphate/total phosphorus	IFU 50	x	x	x	x	x	x	x
sulphate	IFU 36							
sorbitol	enzymatic							
sorbitol	IC/HPLC	x				x		x
formol number	IFU 30	x	x	x	x	x	x	x
aspartic acid	enzymatic							
proline	IFU 49			x				
water-soluble pectins	IFU 26							
lactic acid	IFU 53							
anthocyanins fingerprint	HPLC	x				x		
oxalic acid	IC/HPLC							
D-mannitol	IC/HPLC							
SGF-Profiling ™	^{1}H-NMR							
Internal Relations								
ratio	calculated	x	x	x	x	x	x	x
total sugar	calculated	x	x	x	x	x	x	x
sugar-free extract	calculated	x	x	x	x	x	x	x
glucose-fructose ratio	calculated	x	x	x	x	x	x	x
% sucrose of the sugar	calculated	x	x	x	x	x	x	x
citric acid-isocitric acid ratio	calculated	x		x	x	x	x	x
formol number/proline	calculated							
free tartaric acid	calculated							
Food Safety Parameters								
mercury, cadmium, lead, arsenic		x	x	x	x	x	x	x
iron								
patulin								
ochratoxin A								
gluconic acid & glycerol								
ethephon								
pesticide screening		x	x	x	x	x	x	x

Annex 2

Fictive example of overview table for quality observation and corrective actions:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
File Nr.	Opening date	Product Reference	Description Problem	Source	Justified Yes/No/ not clear	Safety issue?	Ref. insur. File	Immediate action for issue	Corrective Action	Resp. person	Deadline	Closing date	Follow up	Follow up file nr

Legend

1 Classify with file numbers.
2 Note date when the file was started.
3 Identify concerned products with batch nr., contract nr, invoice nr. or any other reference.
4 Short description of the situation and the problem.
5 Indicate how it came to the opening of a file, for example: customer claim, audit observation, ad hoc observation, HACCP team, …
6 Note if the claim was justified or not. Can be filled in after investigation.
7 Decide if food safety is involved. Such cases need special attention.
8 If insurance was involved a file reference can be noted for better traceability.
9 Short description how the current issue was solved, for example: product discarded, product refused, commercial agreement, …
10 If applicable, short description which corrective action will be implemented in the quality system to avoid similar problems in the future. For example, a change of a procedure, additional controls, changes in agreements with customers, suppliers and service providers, etc.
11 Decide who is responsible for the implementation of the corrective action.
12 Define a deadline to implement the corrective action.
13 Note date when the file was closed. All files without closing date are still open.
14 Decision if the file needs any follow up action.
15 If applicable, number of follow up file.

Note: The above table is a fictive proposal. Any other design and content of documentation which trace continuous improvement are acceptable.

Enlargement of the table with references to suppliers and customers could allow statistics and conclusion for commercial relations.

Annex 3

Guidance for an Initial Implementation

of HACCP Principles in Trade and Brokerage companies

This paper gives advice for the implementation of HACCP-principles in trade and brokerage companies. It should be understood as idea provider, not as a template to establish a HACCP. All examples given here are fictive, in reality they may be more complex.

A short outline gives guidance for preparational work and seven principles to be applied when implementing and running a HACCP.

HACCP principles are focused on food safety hazards and do not require consideration of other kinds of risks. However, some principles of this analysis are applicable for other risks for products or services too. For example, the non-respect of a specification for product colour is not a safety issue but present the risk of justified customer claims and commercial losses. However, it is not recommended to include such risks in the same document, otherwise the focus on food safety could be lost.

Preparation

Establish a HACCP-Team.

At least the team leader should have had HACCP training or respective experiences. Different functions inside the company should be represented, for example:

- Quality management
- Purchase and sales
- Logistics

The HACCP team is working on all points noted in this document.

In a company with only one operational person the team would be limited to this person, but it is recommended to ask at least one qualified external person to participate or to control the result. The obl to apply HACCP principles exits for very small companies too.

Describe all products that the company provides to customers.

Examples:

- Fruit juice concentrate, conventional, different fruit types.
- Fruit juice, conventional, different fruit types.
- Fruit juice, organic, different fruit types.
- Fruit juice flavour: Apple water phase.

Describe the intended use of products by customers.

What is known? What can be expected?

Examples:

- Bottling as conventional juice, inclusive pasteurisation
- Use as baby food, inclusive pasteurisation
- Adding to sweets and sauces, without further heat treatment

One product type can be used for different application by one or different customers, what could result in refined risk assessments, different purchase specification and/or control measures.

Better understanding of customer's application supports not only the own quality management but commercial relation with suppliers and customers too.

Principle 1: Conduct a hazard analysis.

The aim of a hazard analysis is to identify all possible risks that could occur for a given food that is provided to any customer. In a first step this is done without regard if a potential hazard really presents any risk for the consumer or not.

Draw flow charts of all your processes.

In general, activities of a company follow certain principles and rules which are established by the company. In quality management, these structured operations are named processes.

There are main processes (e.g., purchase, sales), supporting processes (e.g., supplier assessment, logistic, book-keeping) and more strategic management processes (e.g., result evaluation, establishment of company goals).

In the frame of an HACCP main processes and supporting processes are the most concerned once because they are likely to act directly on food safety. Management processes take results of the quality management in consideration.

Processes can be split in different parts and represented in a flow chart. A flow chart should be as complete as possible. Include all possible steps, even if they are not applied for all cases (e.g., blending, or intermediate storage is performed, but not at every deal). On the other hand, in some cases it could be advisable to define two parallel processes for the same kind of operation if there are big differences (e.g., product control plan for conventional or organic products)

Some fictive examples of flow charts are given in figures 1 and 2.

Annex 3

Examples:

Figure 1: Fictive process flow chart for process trade

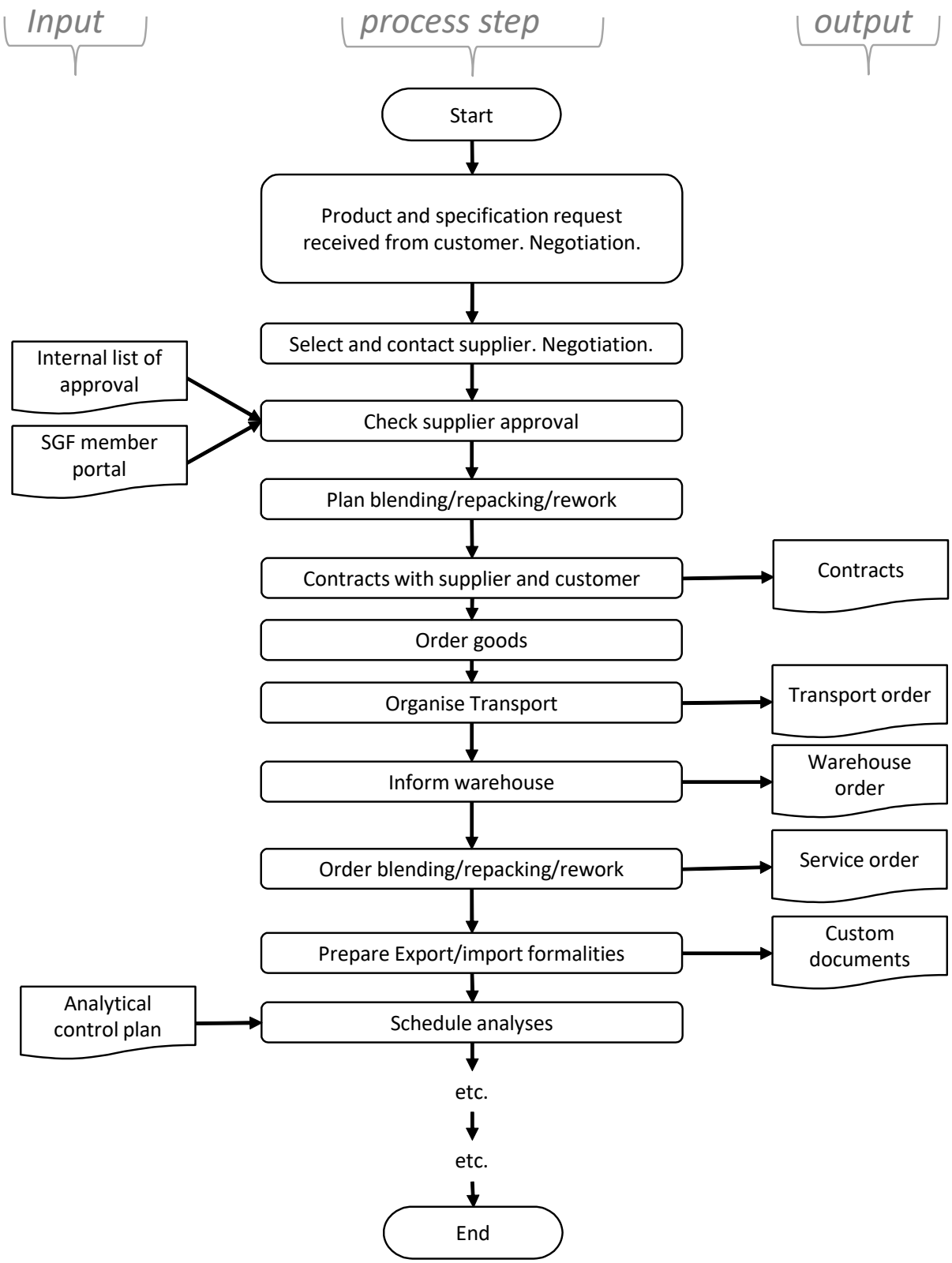
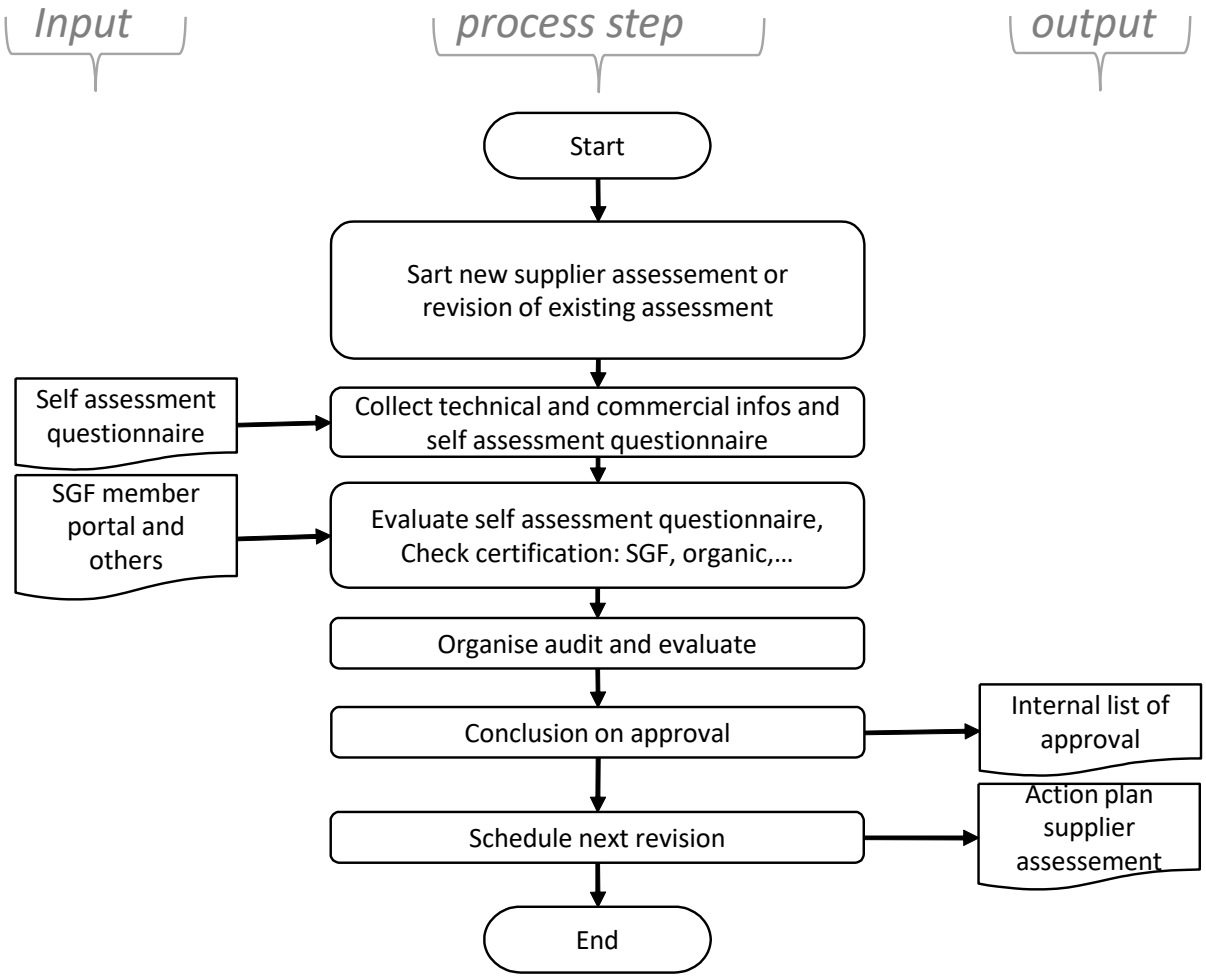


Figure 2: Fictive process flow chart for process supplier assessment



Verify completeness and correctness of flow charts. Check with concerned colleagues if all important steps are included.

Identify hazards. The HACCP team goes step by step through flow charts and note all possible and theoretical hazards, independently of severity or probability. It is a kind of brainstorming, while the type of product and the possible use of the product must be considered. Do not reject ideas, because the hazard is unlikely to happen. Such risk evaluation is done in later steps and will eliminate those hazards from further actions.

The difference between a hazard and a risk:

- A hazard is any agent, that could cause a health problem.
- A risk is described through the combination of probability of occurrence and potential impact on consumer health if any hazard would remain in the product.

Hazards can be dangerous compounds or contaminants. There are categorized as follows:

- Chemical hazards like pesticides, heavy metals, mycotoxins, allergens, migrating compounds from packaging, etc.

- Biological hazards like pathogens. (Pathogens are living (micro-)organism with negative health effect. Do not mistake the term with microorganisms which harm product quality, like lactic acid bacteria, but do not produce toxic agents).
- Physical hazards like foreign bodies (metal pieces, glass-, plastic-, or wood splinters, stones, etc.).

A wrong categorisation of hazards should not influence result of the risk analysis but would be a potential source of confusion for the identification of measures that keeps the hazard under control.

List all hazards chronologically along the process. A table with all hazards in different rows and different columns is filled successively. Table 1a shows the first block to fill in the table.

Table 1a: Fictive examples of potential hazards analysis – part 1

Step	Potential hazard	Type of hazard	Justification
Order goods	Allergens: SO2 in grape juice	Chemical	SO2 is harmful for allergic customers. It will not be eliminated during further process.
Organise chilled bulk transport	Pathogens	Biological	Bad transport conditions (cleanliness, cold chain) let grow pathogens.

Step	Potential hazard	Type of hazard	Justification	Likelihood of occurence	Severity	Risk class	Q1	Q2	Q3	Q4	Control measure	CCP
Order goods	Allergens: SO2 in grape juice	Chemical	SO2 is harmful for allergic customers. It will not be eliminated during further process.	2	3	3	Yes	No	No	--	Supplier assessment and contractual agreed product specification	No
Organise chilled bulk transport	Pathogens	Biological	Bad transport conditions (cleanliness, cold chain) let grow pathogens.	2	3	3	Yes	No	No	--	Standardised cleaning and transport order, assessment, and approval of transport company	No

Most potential food safety hazards must be physically controlled by producers or operational service providers. Therefore, supplier assessment and safety agreements play an important role for traders and brokers who are responsible for the safety of products that is supplied with their interaction.

A few hazards could be introduced by the trade or brokerage company self, for example when batches are confused in sales or logistics, ambiguous product specifications are communicated, or wrong instructions are given to warehouses or transport companies.

Once identified, every hazard must be evaluated. Therefore, different methods exist, which are all based on potential severity and likelihood of occurrence for any hazard and mostly organised in risk matrices.

Annex 3

Risk matrices are used not only for HACCP but in different areas and must adapted to the own situation. Figure 2 shows a basic example of risk matrix where individual factors for severity of a hazard issue and probability of occurrence are multiplied to get a total risk score allowing the determination of a risk class per hazard.

Figure 2: Example of risk matrix and risk classification

Severity of hazard issue				
high (factor 3)	3	6	9	
middle (factor 2)	2	4	6	
low (factor 1)	1	2	3	
	unlikely (factor 1)	possible (factor 2)	probable (factor 3)	**Likelihood of occurence**

Risk Score	**Risk class**
6 - 9	3
3 - 4	2
2	1
1	0

Risk classes indicate the degree of control quality and frequency for any hazard. In this example we could define as follows:

risk class 0: low relevance, hazard remains in the list for regular revision,

risk class 1: sporadic monitoring recommended as data collection for future revision of risk class, consideration in PRPs required,

risk class 2: regular monitoring required, consideration in PRPs required,

risk class 3: special focus on the control of the hazard is required, consideration in PRPs required

In general, it is difficult to estimate likelihood of occurrence, therefore the principle of precaution must be applied. For example, a food safety issue that could occur approximately once a year is not negligible but highly probable.

At the first implementation of a HACCP, risk classification could have arbitrary character. Monitoring of hazard occurrence delivers experiences and statistical data that allow refined classification for future revisions of the hazard analyses. Thus, the system can improve every year.

Beside own monitoring other sources of information like the European Rapid Alert System for Food and Feed (RASFF), press reports or communication from SGF and other associations can deliver important indication about possible occurrence of food safety issues. The exchange with suppliers and customers can provide worthful information too.

Table 1b: Examples of potential hazards analysis – part 2

Likelihood of occurence	Severity	Risk class
2	3	3
2	3	3

Step	Potential hazard	Type of hazard	Justification	Likelihood of occurence	Severity	Risk class	Q1	Q2	Q3	Q4	Control measure	CCP
Order goods	Allergens: SO2 in grape juice	Chemical	SO2 is harmful for allergic customers. It will not be eliminated during further process.	2	3	3	Yes	No	No	--	Supplier assessment and contractual agreed product specification	No
Organise chilled bulk transport	Pathogens	Biological	Bad transport conditions (cleanliness, cold chain) let grow pathogens.	2	3	3	Yes	No	No	--	Standardised cleaning and transport order, assessment, and approval of transport company	No

Principle 2: Determine the critical control points (CCPs).

In next steps for every relevant hazard is checked individually if the hazard is kept at an acceptable level through existing measure of good practice or in further process steps. If this is not the case additional controls must be implemented. These are CCPs (Critical Control Points) at certain process steps.

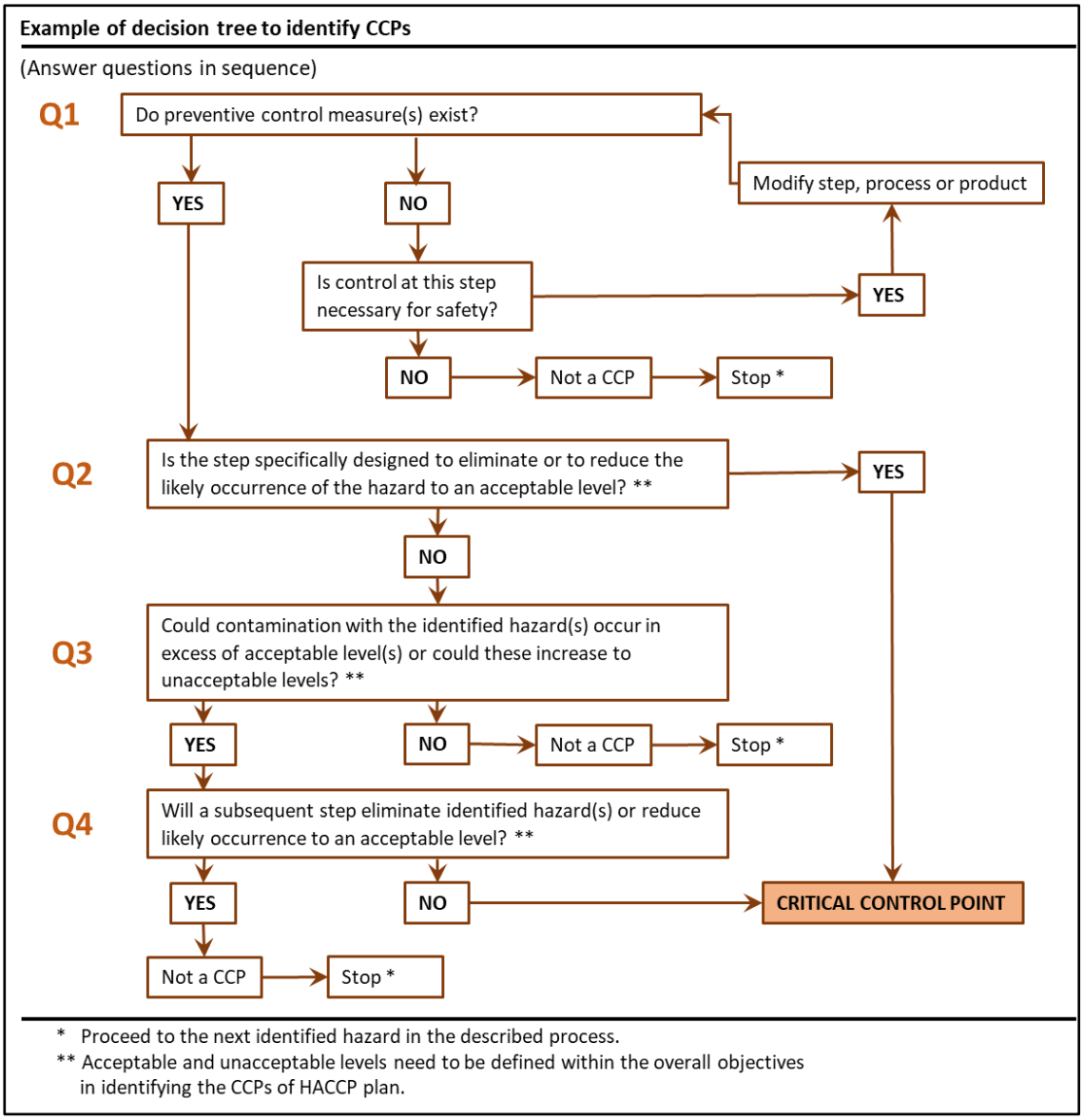
CCPs must be controlled permanently to assure that the hazard does not present any danger. Therefore physical, chemical, or microbiological measurements are necessary. For a trade or

brokerage company, only in exceptional situations such controls are realistic to install. An example could be the analysis of every batch baby food for critical contaminants through a commercial laboratory if the hazard is insufficiently controlled by the supplier. On the other hand, it would also be possible – and probably more appropriate - to include such systematic controls in a routine control plan, a PRP (Pre-Requisite Programme) as part of good company practice.

For participants of the Voluntary Control System of SGF, there is a kind of system owned systematic control point when purchasing non-system goods. Conformity analyses must be carried out and the traceability up to the fruit processor must be assured. It is recommended to implement it in the routine control point where applicable.

The check if any hazard needs critical controls is carried out by following an appropriate decision tree. Therefore, every step in the flow chart is examined with a series of questions. One example of a suitable decision tree for CCPs is shown in figure 5.

Figure 5: example of CCP-decision tree with four questions (Q1, Q2, Q3, Q4)



Source: Food Standard Agency, UK, MyHACCP

https://myhaccp.food.gov.uk/help/guidance/operational-prerequisite-programmes-oprps (June 23, 2021)

If any CCP is identified, the step must be marked in the hazard analysis and the flow chart.

Annex 3

A stepwise example how to use the decision tree for SO2 in grape juice:

Q1: Do preventive control measures exist?

> Answer is YES. From the perspective of a trade company, the control measure could be that systematically a product specification is agreed with the supplier which excludes increased SO2 values, and a supplier assessment classify the supplier as trustable in food safety aspects.

Q2: Is the step specifically designed to eliminate or to reduce the likely occurrence of the hazard to an acceptable level?

> Answer is NO. The process step “Order goods” will not physically influence the concentration of SO2 in the product.

Q3: Could contamination with the identified hazard(s) occur in excess of acceptable level(s) or could these increase to unacceptable levels?

> Answer is NO. The occurrence of the hazard is controlled by purchase specification and supplier assessment.

Conclusion: The process step “order goods” is not a CCP for the presence of SO2 in grape juice

Many potential hazards can be treated in the same way. To remain pragmatic, different hazard can be grouped where useful: Instead of different lines for presence of glass splinters, hard plastic splinters, wood splinters, metal pieces from equipment, etc. the table can have one line for presence of harmful foreign bodies. On the other side differentiation could be necessary when hazards have not the same probability of occurrence in all products, like SO2 which have higher risk for grape juice than for apple juice, or broken cherry stones which could be a problem in cherry puree.

Annex 3

Another example for the check if a process step “organise chilled transport” is a CCP:

Q1: Do preventive control measures exist?

> Answer is YES. From the perspective of a trade company who organises a chilled transport, the control measure could be that systematically a loading and transport conditions are agreed with supplier and the transport company to assure transport at the correct maximum temperature. Furthermore, supplier and transport company must be assessed for food safety aspects and approved as supplier or service provider by the trade company.

Q2: Is the step specifically designed to eliminate or to reduce the likely occurrence of the hazard to an acceptable level?

> Answer is NO. The process step “Organise chilled transport” cannot reduce any pathogen concentration. If pathogens are present the concentration can be kept at the same level in the best case.

Q3: Could contamination with the identified hazard(s) occur in excess of acceptable level(s) or could these increase to unacceptable levels?

> Answer is NO. The occurrence of the hazard is controlled by purchase specification, shipping agreements and assessment of supplier and transport company.

Conclusion: The process step “Order chilled transport” is not a CCP for the presence pathogens.

This example shows that service provider can play an important role in supplier assessment and approval too.

Table 1c: Examples of potential hazards analysis – part 3

Q1	Q2	Q3	Q4	Control measure	CCP
Yes	No	No	--	Supplier assessment and contractual agreed product specification	No
Yes	No	No	--	Standardised cleaning and transport order, assessment, and approval of transport company	No

Step	Potential hazard	Type of hazard	Justification	Likelihood of occurence	Severity	Risk class	Q1	Q2	Q3	Q4	Control measure	CCP
Order goods	Allergens: SO2 in grape juice	Chemical	SO2 is harmful for allergic customers. It will not be eliminated during further process.	2	3	3	Yes	No	No	--	Supplier assessment and contractual agreed product specification	No
Organise chilled bulk transport	Pathogens	Biological	Bad transport conditions (cleanliness, cold chain) let grow pathogens.	2	3	3	Yes	No	No	--	Standardised cleaning and transport order, assessment, and approval of transport company	No

Principle 3: Establish critical limits.

If there are CCPs identified, for every identified CCP it must be decided which control result is acceptable and which will lead to block a product for further process of trade.

In processing plants, the minimum temperature during pasteurisation is a typical critical limit. As example in a trade or brokerage company, the exceedance of an analytical food safety parameter could present the non-respect of a critical limit. The definition of the critical limit must be documented and explained: “Increased heavy metal concentration harm the consumer. Any concentration above the official MRL is considered as not-safe.”

Principle 4: Establish monitoring procedures.

Frequency and condition for measuring at any CCP are important. Therefore, clear instructions must be documented. For example: One analysis for every concerned batch, 500g of representative sample sent to a laboratory which is certified ISO 17025 for the analysis requested.

Principle 5: Establish corrective actions (for the concerned batch)

Measuring makes sense only if a bad control result will be followed by blocking the product and assuring, that the hazard or the product will be discarded. Possible ways of handling should be pre-defined and followed. Any improvisation outside the established procedures should not exist.

In any case, the company must establish how to handle non-conform products in its quality management system, CCPs need special attention and strict rules, because food safety is concerned.

In a trade of brokerage company, a rework through the company is not possible, however some measures are possible, for example:

- Instant blocking of products if they are still not delivered.
- Inform suppliers and/or customers and agree on rework.
- Order further inspection or analyses on a blocked product to verify necessity of measures applied by precaution.
- In worst case: Initiate a recall and notify national authorities.

Exceptional derogations to pre-defined measures must be motivated and need separate risk assessment in a written form to demonstrate that no food safety risk above acceptable level exist.

Principle 6: Establish verification procedures.

The hazard analysis depends on external condition and context which could change at any time. Therefore, at least an annual revision of the whole system is necessary. Furthermore, every time if an important change occurs in business activities occurs (new product, new type of supplier, new transport or storage procedures, etc.), the HACCP must be updated with a full or partial revision.

Changes in the HACCP must be traceable. Minutes of HACCP team meetings are part of the documentation.

Principle 7: Establish record-keeping and documentation procedures.

The hazard analyses, all related reasonings, procedures and control results must be documented. This allows tracing back in case of problems for a better root cause analysis. Furthermore, it offers the possibility to demonstrate that suitable safety assurance measures are implemented and applied by the company in case of any litigate.

Record keeping is also the only way to show application during any quality audit.

Conclusion

The HACCP of a trade or brokerage company follows the same principles as applicable for processing plants, but less technical detail questions should be analysed.

Important aspects for the HACCP rely on communication and agreements with suppliers and service providers.

Quality assessment **and** approval of product suppliers and service providers are obligatory.

It is recommended to work according formalized PRPs (prerequisite programmes) to a assure good practice that no or only very exceptional CCPs exist.

Main PRPs are:

- Product supplier assessment and approval
- Service provider assessment and approval
- Control plan in case analytical controls are necessary to assure food safety (e.g., for non-system goods)
- Logistics
- Safety aspects of communication to third parties (product specification, loading and transport instructions, quality agreements, etc.)

The first implementation of HACCP principles requires a relative high level of formalisation. Once implemented, maintenance and updates deliver good assurance for food safety and commercial reputation and ask a reasonable amount of administration.

A HACCP is a basic requirement for most food safety management certification systems.

For questions about HACCP, SGF members can consult the SGF hotline.