GLOBAL FOOD SAFETY STANDARD
DIVISION AIRLINECATERING

Version 10, June 2021
Food Safety Policy

The DO & CO Gourmet kitchens form a full-coverage global network that allows us to provide a unique quality product for our customer’s most vital airports. This requires optimal logistics with the shortest possible distances involved.

Top quality in all products and service areas is one value that primarily characterizes the DO & CO brand. Out of a sense of responsibility for its customers and for society, DO & CO also sets the highest quality standards in all production areas. We consider it a solemn duty to comply consistently with the strictest hygiene regulations.

Foods prepared in DO & CO Airline Catering units must be safe. This is legal requirement as well as the basic expectancy of our customers. Unsafe food production is not only a risk for our guests and customers but also harmful for our company.

The DO & CO Food Safety Standard is an effective food safety tool applicable to all DO & CO Airline Catering units. Safe Food preparation and service in DO & CO Airline Catering units is based on how successful we comply with the rules and regulations explained in this standard.

The DO & CO Food Safety Standard is based on:

- The principles of the Hazard Analysis Critical Control Point (HACCP) approach to food safety and Good Hygiene Practice.
- QSAI Catering Quality Assurance Programme, Version 4
- IFSA/IFCA/AEA/WHO World Food Safety Guidelines, Version 3
- Where possible and expedient legal requirements were included. I.e., the European Food Act (Regulation (EG) No 178/2002) and FDA Guideline Documents.

The DO & CO Food Safety Information- and Training program ensure that all DO & CO staff receive all information relevant to health, hygiene and food safety.

With the implementation of this internal regulations, DO & CO provide airline passengers safe food with best quality and highest compliance to Airline requirements.

Attila Dogudan
(Chairman of the Management Board)
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1. Introduction

“DO & CO Global Food Safety Standard - Division Airline Catering” is based on HACCP concept according the 7 principles of Codex Alimentarius CAC/RCP 1-1969, Rev.4-2003. In such a system all hazards during food flow are identified and are controlled at defined CCP’s (Critical Control Points) and SOPs (Standard Operation Procedure).

In this standard, the control of all relevant hazards through defined CCP’s and SOPs are explained. Safe food preparation and service in airline catering can only be achieved by careful control of hazards through CCP s and SOPs. By control is understood doing monitoring and then taking corrective actions when control indicates any deviation.

A HACCP based food safety system requires recording and documentation. Such records and documentation inform us about the performance of the system implementation as well as requested by legal department and customers.

Biological hazards are the most important ones effecting airline catering food production system. Therefore, although the system includes control of all foods, the target food group is the ready-to-eat high risk foods.

DO & CO Airline Catering Standard states the Food Safety rules and regulations to be applied in all DO & CO units. However, at any point where national regulations are stricter than what is stated in the standard the national rules are valid.
2. Scope

This standard covers all food safety related issues which exist in an airline catering operation.

3. Hazard Analysis and Risk Assessment

A generic food flow diagram for a flight caterer is shown below. Hazard analysis and risk assessment has to be done at each step of this food flow diagram. Once the hazards are identified for each process step, determination of whether the hazard is significant or not should occur through the evaluation of each hazard severity and likelihood of occurrence.

A CCP (Critical Control Point) is a step, location, or procedure at which control can be applied and which is essential to prevent, eliminate or reduce a food safety hazard to an acceptable level.

SOP (Standard Operation Procedures) includes a variety of preventive food safety procedures.
1. Menu Specification
2. Purchasing
3. Receipt
   CCP1
   Raw Vegetables and Fruits
   Raw Animal foods
   Raw Foods Frozen
   Ready to Eat Foods
   Ready to Eat Foods frozen
   Dry Goods
4. Chilled Storage CCP2
5. Ambient Storage
6. Wash/Sanitize
7. Thawing
8. Thawing CCP2.2
9. Raw Food Preparation
10. Storage CCP2
11. Cooking CCP3
12. Blast Chilling CCP4
13. Blast Freezing
14. Storage CCP2
15. Assembly/Preparation CCP5
16. Storage CCP2
17. Storage/Trayset CCP5
18. Storage CCP2
19. Reheating
20. Assembly/Preparation/Trayset CCP5
21. Storage/Final Holding CCP2
22. Dispatch CCP6
23. Transport to Aircraft
24. Aircraft Loading
Food Handling on Board
DO & CO RISK ASSESSMENT:
Please see details in the attachment.
4. Critical Control Points (CCP’s)

CCP 1  Food Receiving
CCP 2  Food Storage Temperature
CCP 2.2 Food Temperature during Thawing
CCP 3  Food Cooking
CCP 3  Food Chilling
CCP 5  Food Temperature/Time during Handling
CCP 6  Food temperature at Dispatch
## CCP 1 Food Receiving

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Control of microbial growth during transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Refrigerated frozen and warm purchased foods</td>
</tr>
</tbody>
</table>

### Procedure

#### Critical Limit
1. Temperature of purchased refrigerated foods shall be 5°C (41°F) or less at receiving. (Fish on ice, minced meat or prepared raw meat not more than 4°C/39°F)
2. Purchased frozen foods shall be hard frozen and without signs of previous thawing at receiving.
3. Temperature of hot food shall be min 60°C (140°F) at receiving.

#### Monitoring
1. Food temperature is monitored by infrared thermometer or Probe thermometer.
2. Food temperature is assessed by manual testing / visual observation of food surface
3. Food temperature is monitored by infrared thermometer.
(Note: Quality checks on received products are described in SOP 4)

#### Corrective action
1. If surface temperature exceeds 5°C (41°F) reject product
2. Frozen food displaying soft surface should be rejected
3. If surface temperature is less than 60°C (140°F) reject product.

#### Frequency of monitoring
Batches of high-risk ready-to-eat foods shall be checked
Low-risk foods shall be checked at random
Batch: A delivery (one or several foods) from a supplier. Control may be done by checking several high-risk foods and recording the highest temperature.

<table>
<thead>
<tr>
<th>Related document</th>
<th>Checklist CCP 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible for monitoring</td>
<td>Receiving and store staff</td>
</tr>
<tr>
<td>Responsible for corrective action</td>
<td>Receiving supervisor</td>
</tr>
</tbody>
</table>
# CCP 2 Food Storage Temperature

<table>
<thead>
<tr>
<th><strong>Purpose</strong></th>
<th>Control of microbial growth during storage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope</strong></td>
<td>Refrigerators for storage of high-risk foods</td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Critical Limit</strong></td>
<td>Target Storage temperature of refrigerated high-risk foods is 4°C (39°F). Temperature must not exceed 8°C (46°F). For storage of raw fish or meat temperature must not exceed 4°C (39°F).</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>1. Monitoring of refrigeration temperature.</td>
</tr>
</tbody>
</table>
| **Corrective action** | 1.1 If refrigeration temperature exceeds 8°C (46°F), check if there is a technical error and check food temperature.  
1.2 If food temperature exceeds 5°C (41°F) check quality of food and there is an technical error transfer to another refrigerator (otherwise check if temperature is coming down) |
| **Frequency of monitoring** | At least twice per day |
| **Related documents** | Checklist CCP 2  
Records must specify date and time of recorded temperature |
| **Responsible for monitoring** | Receiving, production, operation staff. |
| **Responsible for corrective action** | Department depending  
Department supervisors |
# CCP 2.2 Food Temperature During Thawing

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To prevent harmful microbial growth during thawing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Already To Eat frozen food which is thawed under refrigeration, in thaw boxes, under ambient temperature (below 21°C/70°F), in microwave or under running cold water (not more than 21°C/70°F) *</td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>Critical Limit</td>
<td>Food temperature must not exceed 8 °C (46°F), during the thawing process. Thawed products have to be used within 72 hours based on the start of thawing</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Check food surface temperature, ambient temperature, water temperature, thawing box temperature and time at regular intervals during the thawing process.</td>
</tr>
<tr>
<td>Corrective action.</td>
<td>When food temperature approaches 8°C (46°F): transfer food to a normal refrigerator for completion of thawing or process food. If food temperature exceeds 8 °C (46°F) discard food. If thawed food is stored longer than 72 hours discard food.</td>
</tr>
<tr>
<td>Frequency of monitoring</td>
<td>Each batch of frozen ready-to-eat food being thawed outside refrigeration</td>
</tr>
<tr>
<td>Related documents</td>
<td>Checklist CCP 2.2</td>
</tr>
<tr>
<td>Responsible for monitoring</td>
<td>Production employees</td>
</tr>
<tr>
<td>Responsible for corrective action</td>
<td>Production supervisor</td>
</tr>
</tbody>
</table>

* Thawing methods differ according to national regulations
## CCP 3 Food Cooking

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To prevent survival of vegetative pathogens, parasites and viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>High-risk foods for in-house cooking</td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>Critical Limit</td>
<td>1. Raw poultry or food containing raw poultry shall be cooked to a core temperature of minimum 74°C (165°F)</td>
</tr>
<tr>
<td></td>
<td>2. Raw minced poultry, meat, fish and shellfish shall be cooked to a core temperature of minimum 74°C (165°F)</td>
</tr>
<tr>
<td></td>
<td>3. Stuffed poultry, meat, fish, shellfish or pasta and stuffing containing raw poultry, meat, fish or shellfish shall be cooked to a core temperature of minimum 74°C (165°F)</td>
</tr>
<tr>
<td></td>
<td>4. Liquid, raw eggs, pasta and products containing raw eggs or raw dairy, shall be cooked to a core temperature of minimum 74°C (165°F), except eggs for boiled, fried and poached eggs.</td>
</tr>
<tr>
<td></td>
<td>5. Meat, fish, shellfish and Crustacea other than the above shall be cooked to 65°C (149°F) core temperature.</td>
</tr>
<tr>
<td></td>
<td>6. Whole muscle beef, lamb, fish seared on all external surfaces to effect a cooked colour change (including steaks of lamb, beef, salmon) to a surface temperature of minimum 65°C (149°F).</td>
</tr>
<tr>
<td></td>
<td>7. Sauces, soups and stew to a temperature of minimum 74°C (165°F).</td>
</tr>
<tr>
<td>Monitoring</td>
<td>1-5: Check food core temperature upon completion of cooking by probe thermometer for at least 15 seconds.</td>
</tr>
<tr>
<td></td>
<td>6: Check surface temperature with an infrared thermometer for at least 15 seconds.</td>
</tr>
<tr>
<td>Corrective action</td>
<td>Re-cook to prescribed core temperature or discard food.</td>
</tr>
<tr>
<td>Preventive corrective action</td>
<td>Training</td>
</tr>
<tr>
<td>Frequency of monitoring</td>
<td>Each batch of high-risk raw foods.</td>
</tr>
<tr>
<td></td>
<td>Batch: A volume of a specific high-risk raw food being cooked under essentially the same conditions and at essentially the same time.</td>
</tr>
<tr>
<td></td>
<td>The core temperature is taken at the greatest layer thickness of the batch.</td>
</tr>
<tr>
<td>Related documents</td>
<td>Checklist CCP 3/4</td>
</tr>
<tr>
<td>Responsible for monitoring</td>
<td>Chefs</td>
</tr>
<tr>
<td>Responsible for corrective action</td>
<td>Production supervisor</td>
</tr>
</tbody>
</table>
# CCP 4 Food Chilling

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Prevent microbial growth during chilling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>In-house cooked high-risk foods including meat, fish, egg products, dairy products, cereals, vegetables, ...</td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
</tbody>
</table>
| Critical Limit* | Food core temperature shall pass temperature interval of 60°C (140°F) - 21°C (70°F) within 2 hours  
21°C (70°F) – 5°C (41°F) within additional 4 hours  
For DO & CO Europe: 60°C (140°F) -5°C (41°F) within 2 hours or local regulations if stricter  
Rice, Pasta, Vegetable: rinsing under cold water is allowed. |
| Monitoring | Check core food temperature after two hours and at the end of chilling process |
| Corrective action | Discard food of non-compliant food items. |
| Frequency of monitoring | Each high-risk food batches. Temperatures to be taken at the centre or thickest part of the joint.  
Batch: A volume of a cooked high-risk food being chilled under essentially the same conditions and at essentially the same time. |
| Related documents | Checklist CCP 3/4 |
| Responsible for monitoring | Chefs |
| Responsible for corrective action | Production supervisor |
# CCP 5 Food Temperature / Time During Handling

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To prevent microbial growth during handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>High-risk ready-to-eat foods</td>
</tr>
<tr>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td><strong>Critical Limit</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ambient temperature &gt; 21°C (70°F)</td>
<td>Temperature of chilled high-risk ready-to-eat food must not exceed 15°C (59°F) during handling and Exposure time to ambient temperature of chilled high-risk ready-to-eat food must not exceed 45 minutes</td>
</tr>
<tr>
<td>2. Ambient temperature &gt; 15°C (59°F) &lt; 21°C (70°F)</td>
<td>Exposure time to ambient temperature of chilled high-risk ready-to-eat food must not exceed 45 minutes</td>
</tr>
<tr>
<td>3. Ambient temperature ≤ 15°C (59°F)</td>
<td>Exposure time to ambient temperature of chilled high-risk ready-to-eat food must not exceed 90 minutes. Room temperature has to be recorded twice daily.</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td></td>
</tr>
<tr>
<td>1. Check food temperature during/at end of process and check exposure time.</td>
<td></td>
</tr>
<tr>
<td>2. Check exposure time at the end of the process. Please note that the ambient temperature has to be recorded twice daily.</td>
<td></td>
</tr>
<tr>
<td>3. Check exposure time at the end of the process. Please note that the ambient temperature has to be recorded twice daily.</td>
<td></td>
</tr>
<tr>
<td><strong>Corrective action</strong></td>
<td></td>
</tr>
<tr>
<td>If time or temperature limits exceeded discard food</td>
<td></td>
</tr>
<tr>
<td><strong>Preventive corrective action</strong></td>
<td></td>
</tr>
<tr>
<td>Review handling process</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency of monitoring</strong></td>
<td></td>
</tr>
<tr>
<td>Every batch of high-risk food and every flight / class. Batch: A volume of high-risk food being prepared (e.g. sliced, minced, mixed etc) prior to meal portioning. A volume of meals of the same type for a group of flights, a flight or a class being portioned, packed or trayset under essentially the same conditions and at essentially the same time</td>
<td></td>
</tr>
<tr>
<td><strong>Related documents</strong></td>
<td></td>
</tr>
<tr>
<td>Checklist CCP 5</td>
<td></td>
</tr>
<tr>
<td><strong>Responsible for monitoring</strong></td>
<td></td>
</tr>
<tr>
<td>Production staff</td>
<td></td>
</tr>
<tr>
<td><strong>Responsible for corrective action</strong></td>
<td></td>
</tr>
<tr>
<td>Production supervisor</td>
<td></td>
</tr>
</tbody>
</table>
## CCP 6 Food Temperature at Dispatch

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To prevent unsafe microbial growth in meals during dispatch and transport to aircraft.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope</strong></td>
<td>1. Chilled Potentially Hazardous Food (meals, desserts etc) delivered to aircraft.</td>
</tr>
<tr>
<td><strong>Procedure</strong></td>
<td><strong>Critical limit</strong></td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>Food temperature checked in the chiller at the time before delivery.</td>
</tr>
<tr>
<td><strong>Corrective action</strong></td>
<td>If food temperature is above Critical limit restore under refrigeration or add dry ice and report deviation to responsible manager. If food temperature is above 8°C (46°F) at the time of loading on board report deviation to responsible manager. Add dry ice.</td>
</tr>
<tr>
<td><strong>Frequency of monitoring</strong></td>
<td>Every flight; one trolley item, one oven item for each class and service</td>
</tr>
<tr>
<td><strong>Related documents</strong></td>
<td>Checklist CCP 6 (Note: document name of checked food item)</td>
</tr>
<tr>
<td><strong>Responsible for monitoring</strong></td>
<td>Dispatch staff</td>
</tr>
<tr>
<td><strong>Responsible for corrective action</strong></td>
<td>Dispatch supervisor</td>
</tr>
</tbody>
</table>
# 5. Production Process – Standard Operation Procedures (SOP)

<table>
<thead>
<tr>
<th>SOP 1</th>
<th>Hazardous Meal Ingredient Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP 2</td>
<td>Control of Allergy-related Special meals</td>
</tr>
<tr>
<td>SOP 3</td>
<td>Food Supplier Approval</td>
</tr>
<tr>
<td>SOP 4</td>
<td>Receiving Control</td>
</tr>
<tr>
<td>SOP 5</td>
<td>Food Storage</td>
</tr>
<tr>
<td>SOP 6</td>
<td>Food Thawing</td>
</tr>
<tr>
<td>SOP 7</td>
<td>Washing and Disinfection of Raw Vegetables and Fruits</td>
</tr>
<tr>
<td>SOP 8</td>
<td>Food Handling</td>
</tr>
<tr>
<td>SOP 9</td>
<td>Personal Hygiene</td>
</tr>
<tr>
<td>SOP 10</td>
<td>Cleaning and Disinfection</td>
</tr>
<tr>
<td>SOP 11</td>
<td>Physical Hazards</td>
</tr>
<tr>
<td>SOP 12</td>
<td>Chemical Hazards</td>
</tr>
<tr>
<td>SOP 13</td>
<td>Food Safety Training</td>
</tr>
<tr>
<td>SOP 14</td>
<td>Validation of Measuring Equipment</td>
</tr>
<tr>
<td>SOP 15</td>
<td>Preventive Maintenance</td>
</tr>
<tr>
<td>SOP 16</td>
<td>Pest Control</td>
</tr>
<tr>
<td>SOP 17</td>
<td>Water Treatment</td>
</tr>
<tr>
<td>SOP 18</td>
<td>Traceability, Product Recall and Legal Labelling of Food</td>
</tr>
<tr>
<td>SOP 19</td>
<td>Facility Requirements</td>
</tr>
<tr>
<td>SOP 20</td>
<td>Delay Policy</td>
</tr>
</tbody>
</table>
SOP 1 Hazardous Meal Ingredient Control

**Purpose**
The aim of meal ingredient control procedures is to prevent use of hazardous meal ingredients which may constitute a microbiological or chemical hazard.

**Scope**
Control of hazardous meal ingredients.

**Procedure**
The following list contains items that by nature may constitute a food safety risk and may have been previously implicated in foodborne illness outbreaks. Therefore, it is recommended that these items not be included in airline menus.

At each menu presentation, menus shall be checked using SOP 1 checklist secure that the ingredients above are not part of DO&CO meals. If any customer insists on having a restricted meal component the customer shall be informed in writing of the safety risk.

### RESTRICTED MEAL COMPONENTS

<table>
<thead>
<tr>
<th>Restricted meal component</th>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw / undercooked poultry</td>
<td><em>Salmonella, Campylobacter</em></td>
</tr>
<tr>
<td>Raw / undercooked eggs *</td>
<td><em>Salmonella, Campylobacter</em></td>
</tr>
<tr>
<td>Raw / undercooked meat (except whole muscle beef and lamb)</td>
<td><em>E.coli O157 (EHEC), Salmonella, parasites</em></td>
</tr>
<tr>
<td>Uncooked Goose Liver</td>
<td><em>Salmonella, Campylobacter</em></td>
</tr>
<tr>
<td>Indestine</td>
<td><em>E.coli O157 (EHEC), Salmonella, parasites</em></td>
</tr>
<tr>
<td>Raw fish and shellfish</td>
<td><em>Vibrio parahaemolyticus, parasites</em></td>
</tr>
<tr>
<td>Unpasteurised milk and cream</td>
<td><em>Salmonella, Staph. aureus,</em></td>
</tr>
<tr>
<td>Soft cheeses from raw milk</td>
<td><em>Salmonella, Staph. Aureus, Listeria</em></td>
</tr>
<tr>
<td>Mayonnaise made from raw eggs</td>
<td><em>Salmonella</em></td>
</tr>
<tr>
<td>Raw vegetable sprouts or unwashed herbs</td>
<td><em>Salmonella, Listeria,</em></td>
</tr>
<tr>
<td>Raw / undercooked dried beans</td>
<td>Lectins</td>
</tr>
<tr>
<td>Unpasteurised fruit - and vegetable juices with a pH above 4.6</td>
<td>Pathogens deriving from possible faecal contamination, e.g. enteropathogenic <em>E.coli</em></td>
</tr>
<tr>
<td>Raw desiccated coconut</td>
<td><em>Salmonella</em></td>
</tr>
<tr>
<td>Any toxic food</td>
<td>Several types of fish from tropical sea</td>
</tr>
<tr>
<td>Food under recall or under investigations regarding food poisoning</td>
<td></td>
</tr>
</tbody>
</table>

* Exceptions:

Poached eggs are considered safe, provided that cooking coagulates entire eggs white and outer eggs yolk.

Raw, undamaged shell eggs may be delivered to customers for preparation on board.

**Responsible:** Food Development  **Corporate:** Quality Assurance
SOP 2 Control of Allergy-related Special Meals

Purpose
Consumers who are allergic or intolerant to specific substances in specific foods may order allergy-related special meals (SPML) for the flight. These substances are generally referred to as food allergens. When such a request received it must be ensured that the order is fulfilled with no mistake.

Scope
Control of allergens in special meals (SPML)

Definitions
An allergen is a substance in our environment (e.g., food ingredients, food additives) which by contact may trigger an adverse response by the human immune system. In the European Food Law Allergens are listed as below:

Allergens and products thereof:
- Cereals containing Gluten (Wheat, rye, barley oats, spelt, kamut or their hybrids strains)
- Crustaceans
- Eggs
- Fish
- Peanuts
- Soybean
- Milk (including Lactose)
- Nuts i.e., Almond, Hazelnut, Walnut, Cashew, Pecan nut, Brazil nut, Pistachio nut, Macadamia Nut, Queensland nut
- Celery
- Mustard
- Sesame seeds
- Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/kg expressed in SO$_2$
- Lupine
- Molluscs

By allergy-related SPML is understood
- No-nuts SPML
- No-dairy SPML
- No-eggs SPML
- No-soy SPML
- No-wheat SPML
- No-shellfish/fish SPML
- No-gluten (gluten free) SPML
- No-lactose SPML
Procedure

SPECIAL MEAL CATEGORIES

<table>
<thead>
<tr>
<th>Food Allergens and Intolerance Agents</th>
<th>Special meal Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peanuts</td>
<td>No-nuts SPML</td>
</tr>
<tr>
<td>Tree nuts</td>
<td></td>
</tr>
<tr>
<td>Milk/Lactose</td>
<td>No-dairy SPML</td>
</tr>
<tr>
<td>Soybeans</td>
<td>No-soy SPML</td>
</tr>
<tr>
<td>Wheat (wheat protein)</td>
<td>No-wheat SPML (not the same as Gluten-free SPML!)</td>
</tr>
<tr>
<td>Eggs</td>
<td>No-eggs SPML</td>
</tr>
<tr>
<td>Crustaceans and molluscs</td>
<td>No-shellfish SPML</td>
</tr>
<tr>
<td>Fish</td>
<td>No-fish SPML</td>
</tr>
<tr>
<td>Celery</td>
<td>No celery SPML</td>
</tr>
<tr>
<td>Mustard</td>
<td>No mustard SPML</td>
</tr>
<tr>
<td>Sulphur dioxide and sulphites</td>
<td>No sulphur dioxide &amp; SPML</td>
</tr>
<tr>
<td>Sesame seeds</td>
<td>No sesame seeds SPML</td>
</tr>
<tr>
<td>Lactose (milk sugar)</td>
<td>Common food intolerance agents</td>
</tr>
<tr>
<td>Gluten</td>
<td>No lactose SPML</td>
</tr>
<tr>
<td></td>
<td>No-gluten SPML</td>
</tr>
</tbody>
</table>

Above agents are the target group of SOP 2 Procedure for Control of Allergy-related Special Meals.

Allergy-related SPML may be purchased ready-to-eat or they may be produced and assembled in-house.

Purchased allergy related SPML

Preventive measures:

Supplier (manufacturer) shall be approved by Regional Hygiene Manager prior to initiation of purchase.

This requirement of approval by DO & CO does not include airline-nominated suppliers.

Responsibility for controlling the finished allergen related SPML including possible tray items shall be specified.
In-house produced/assembled allergy related SPML
Preventive measures:

Each type of allergy-related SPML shall be specified and documented in a meal specification, including tray-items.

Responsibility for production/assembly of allergen related SPML shall be specified.

Responsibility for controlling the finished allergen related SPML (including possible tray items) shall be specified.

Production equipment, such as food containers, slicers, cooking equipment, hand utensils etc, shall be clean at time of preparation of the SPML ingredients.

Related Documents:
- Product specification SPML
- Checklist SPML Production
- Checklist SPML Trayset

**Responsible:** Food Production  **Corporate:** Purchaser
**Food Production**
Dispatch
Quality Assurance
SOP 3 Food Supplier Approval

Purpose
To ensure safety of purchased foods by use of procedures which satisfy customer expectations as well as possible relevant food legislation.

Scope
This procedure applies the approval of all suppliers

Procedure

Type of Audits:
Approval may be performed by:

- An on-site audit, which includes a system audit as well as a physical inspection of premises. Audit shall be conducted by use of supplier Approval checklist.
- A system audit (assessment of supplier’s food safety control, based on supplier’s description and documentation. A questionnaire or survey is used for this purpose. Certificates of accreditation issued by a recognized governmental, regularity or industry organization can also be considered for approval). The base is the “SOP3 - DO & CO Supplier Questionnaire”.

On site audits are recommended for potential suppliers of ready-to-eat high risk foods.
System audits are suitable for approval of suppliers of low-risk foods.
Frequency of on site and system audit shall be based on the relative risk of the product and the relative risk of the supplier.

Supplier Rating
Based on site and system audits suppliers shall be specified as.

- Approved
- Conditionally approved
- Non-approved

Conditionally approved suppliers shall be re-audited within a reasonable time for final clarification of approval status.

Approval Procedure Food Supplier

- All suppliers have to be categorized according to the product risk and the business volume. Certified supplier may be accepted without further Onsite Audits.
- Each potential Food Supplier has to fill-out the SOP3 Supplier Questionnaire (System Audit)
- Each potential High Risk Food Supplier shall be audited by the QA Department within one month after first delivery
- Each DO & CO unit shall establish a list of Top 50 Food Supplier sorted according to the actual sales volume. This list should be maintained by the local purchaser and actualized in the fourth quarter of the year (October – December). This list will be sent to the regional QA Manager (e.g., for Austria foodsafetyAT@doco.com)
- All listed Food Supplier obtain the “SOP3 – Supplier Questionnaire” on annual base. The questionnaire has to be sent to the supplier and controlled by the local buyer/purchaser. The
form has to be returned signed and stamped within fourteen days. The completed forms have to be sent to the regional QA Manager. The regional QA Manager has to evaluate the questionnaires and inform the purchaser about the result.

- The regional QA Manager has to plan and perform Onsite Audits for all High-Risk Food Supplier which are listed. Furthermore, the QA Manager and the Purchaser can decide to control food supplier which are not Top 50 listed.

- Approval audits are not feasible for wholesalers and distributors. Approval of foods purchased by them shall be done by assessment of product specification.

Product Specification

Detailed specifications of the purchased food should be required from all DO & CO food supplier and all purchased products. For getting consistent information the DO & CO Specification Form should be sent to the supplier. The supplier has to provide all relevant information according to the Specification Form.

The Specification form should be sent by the buyer/purchaser for all purchased food. The form should be returned within 14 days and sent to e.g. foodsafetyAT@doco.com.

The specifications are maintained by the QA Team.

Use of GM (Genetically Modified Foods)

Whenever GM free meals are requested by a customer, following procedure shall apply.

For purchased foods, supplier shall be asked to guarantee that the food is free of GM organism. The answer shall be documented.

Label of food shall be checked. This applies to purchased foods in areas where local food legislation requires labelling of possible GM ingredients.

Possible soy and corn (maize) and tomato ingredients shall be checked for GM ingredients.

Related Documents:
- Supplier Audit Checklist
- Supplier Questionnaire
- List of Top 50 Supplier
- Product specification
- GM Policy

Responsible: Purchaser Corporate: Quality Assurance
SOP 4 Receiving Control

Purpose
To ensure that a procedure is applied to verify the safety and quality of the purchased foods at the time of receiving.

Scope
All purchased foods.

Procedure
The followings will be verified for each delivery at the time of receiving:
- Temperature for refrigerated products (see CCP 1)
- Surface of frozen products (see CCP 1)
- Weight/Size
- Packaging
- Labelling
- Organoleptic (sensoric, visual check, free of visual contamination, insects etc.)
- Cleanliness/Temperature of transport vehicle

Criteria:
- Temperature of refrigerated and frozen products ➔ see CCP1
- Weight/Size according to specification
- Packaging materials: clean, undamaged, no wooden cases, tins not be blown, deformed or exhibit signs of corrosion, open food (except fruits/vegetables) is not accepted.
- Labelling: Purchased packed food shall be labelled with expiry date (sell by, use by, etc.), and preferably also with production (processing/packaging) date. Each item has to be checked. Expired foods shall be rejected. The rejection has to be recorded. Open food (fruits/vegetables) has to be labelled with the delivery date by the receiver
- Organoleptic: appearance, odour, flavour has to be checked and be rejected in case of any deviation.
- Inside and outside of supplier truck shall be clean. Inside Temperature for cooled products not more than 10°C, for frozen products not more than -15°C, for ambient delivery not more than 18°C. If temperatures are higher, check food temperature and follow CCP 1.
- Food cartons in the truck shall be on pallets.

Related Documents
- Checklist CCP 1

Responsible: Storage Staff, Receiver
Corporate:
SOP 5 Food Storage and Date Marking

Purpose
To ensure that food is not open to biological, chemical and physical hazards by securing the followings.

• Temperature control of freezers
• Segregation of processed foods from unclean foods and surfaces
• Protecting food items against air borne contamination
• Date marking and rotation of foods.

Scope
Storage of raw and ready-to-eat foods in refrigerators, freezers and dry stores.

Procedure
1. Temperature control of freezers
Temperature of all freezer units has to be maintained below -18°C (0°F).
The temperature is monitored twice daily by
• Internal thermometer probes
• Manual thermometer probes or
• Continuous computerized temperature monitoring
Date, time and unit identification has to be recorded.
If temperature exceeds -18°C (0°F) and foods show any sign of thawing corrective action has to be taken:
• If food surface temperature exceeds -15°C (5°F) transfer all food in a freezer which shows acceptable temperature limits
• If food generally don’t show hard surfaces immediate use is necessary.

2. Segregation of processed foods
Segregation Requirements
By segregation is understood prevention of contamination of ready-to-eat food from unclean food or equipment by:
Level I: Wall or partition wall / partition fence (separate cold rooms / cold room sections).
Level II: Horizontal distance within same cold room.

Segregation in Storage of Raw Foods
Unclean raw foods of vegetable origin shall be segregated from raw foods of animal origin by level I or II.
Raw foods of different animal origin shall be segregated by levels I, or II depending on volumes of individual raw food groups.

Segregation in Storage of Raw Foods from Ready-to-Eat Foods
• As a general rule ready-to-eat foods shall be separated from raw foods of animal origin by Level I segregation.
  Level II segregation may however be accepted when:
- volume of raw food is small
- Segregation is clearly marked by labels, painted lines etc.

- Outer packaging material is allowed in raw product refrigerators (cardboard, external plastic boxes, etc) used for storage of foods in unbroken supplier packaging and refrigerators used for storage of purchased, unwashed produce.
- All outer packaging material has to be removed before being delivered to the preparation- and production areas and -refrigerators.
- Outer packaging material may not be present in other refrigerators.
- Wooden pallets are not allowed in the refrigerators and freezers and only in dry stores where there is a risk of contamination a cardboard layer must be inserted.

3. Protecting Food Items against Air-Borne Contamination

All food items in Food Storage Areas shall always be appropriately covered so as to prevent contamination from chemical/physical hazards and the transfer of bacteria, odour and taste from other foods.

- All food bins, trays, containers, baskets or all other self-contained receptacles are always completely covered.
- Appropriate materials for covering shall include plastic film, aluminium foil and plastic covers.
- Physical / chemical hazards include any substance (liquid or solid) originating from ceilings, refrigerators/freezers, condensers, ventilators, faulty pipes, on-going construction, renovation, etc. shall be prevented.
- The top food shelve in the blast chiller has to be covered to avoid contamination with condensing water.

4. Date Marking and Rotation of Foods

- All foods shall be date marked at all times throughout Food Handling and use of expired foods shall be prevented.
- All foods shall be date marked at each of the following times.
  - Once foods are placed in Food Storage Areas with receiving date or the expiry date or shelf life. Recommended is to label all delivered product with the receiving date.
  - Once frozen foods are removed from the freezer for thawing with the date of removal from the freezer,
  - Once pre-packaged foods are opened with the date the package was opened (for matured products like prosciutto, hard cheese, … additionally the shelf-life date),
  - Once foods are processed,
  - Once foods are portioned,
  - Once foods are tray set-up,
  - Once foods are ready for dispatch to the airline with the flight date or colour code,
  - Once food is put in the freezer it has to be marked with the date of freezing
- Food items shall be date marked either by using easily visible date codes or colour codes. All food handling employees must appropriately understand date coding or colour coding procedure
- FIFO (first in first out) system shall be consistently used to ensure that the oldest stock is always used first.

Time control

Cold ready to-eat potentially hazardous food items: 48 hours, first handling to consumption (incl. max 24hrs as assembled item)

Hot food items: 72 hours from cooking to consumption (incl. max 24hrs as assembled item)

Re-vacuumed food (sausages, cheese…) gets an additional shelf life of 48 hours.
Outdated Food items shall be discarded and not be served to customers. If they are not discarded on the spot, they shall be clearly segregated from other foods with a “do not use” or “to be discarded” label.

In house frozen foods shall be kept at -18°C (0°F) for max 3 months.

Related Documents
- Checklist SOP 5

Responsible: Storage Staff Production Staff Dispatch

Corporate:
SOP 6 Food Thawing

Purpose
To ensure that growth of pathogenic microorganisms is controlled and ready-to-eat foods are not contaminated during food thawing.

Scope
Thawing of frozen raw foods of animal origin and frozen ready-to-eat foods.

Procedure
Segregation between raw and ready-to-eat food shall be maintained during thawing.

Following appropriate thawing methods shall be used.

- under refrigeration (thawing room, cooling cell, …)
- at ambient temperature
- In cold water
- kitchen has to follow national law (for example thawing at ambient temperature in Austria not allowed).

Thawing of raw foods shall preferably take place in such a way that food surface temperature does not exceed 8°C (46°F) during thawing.

- Thawing of high – risk ready-to-eat food is critical to safety. Thawing of ready-to-eat foods shall take place in such a way that food temperature does not exceed 5°C (41°F) throughout thawing process. When thawing of ready-to-eat foods takes place outside refrigeration (ambient, cold water etc), food temperature as well as time of exposure to outside refrigeration conditions shall be controlled and documented according to CCP 2.2.

Thawing in cold water necessitates that product be packed in water-tight packaging.

Once thawing is completed food shall either be immediately used or transferred to a refrigeration unit.

Thawed food shall not be refrozen.

Foods for thawing shall be labelled with appropriate date marking (label shall indicate the day it was removed from the freezer)

Time of thawing depends on product size and volume, thawing method and temperature. In general, raw foods shall be heat treated or served within 72 hours from time of started thawing.

All thawing methods except thawing in the chiller needs to be recorded.

Related Documents
- Checklist CCP 2.2

Responsible: Production Staff

Corporate:
SOP 7 Washing and Disinfection of Raw Vegetables and Fruits

Purpose
To ensure safety and cleanliness of raw vegetables and fruits

Scope
Raw vegetables and fruit likely of being contaminated with foreign bodies, insects and soil shall be washed prior to portioning and delivery.

Raw vegetables and fruit likely of being contaminated with harmful microorganisms (organically grown) shall be disinfected in addition to washing.

Procedure
1. Cleaning of vegetables and fruits
Raw purchased vegetables and fruits shall undergo the following steps of cleaning prior to use in airline meals:
   - Preparation (removal of damaged parts, major foreign bodies, separation of leaves etc.)
   - Washing in water of potable water quality
   - Inspect to verify cleanliness

2. Decontamination of vegetables, lettuce, fresh herbs and fruits for raw consumption
The requirement of disinfection depends on water quality and the growing method of the product

Raw purchased vegetables grown by use of organic fertilizer (night soil, sewage) shall undergo the following steps of cleaning prior to use in airline meals:
   - Preparation (removal of damaged parts, major foreign bodies, separation of leaves etc.)
   - Wash / disinfection in a solution of a chemical disinfectant of appropriate type and concentration. Disinfectant chemical must be approved for use on food.
   - If chlorine is used the concentration shall be between 50-100 ppm. Exposure time shall be 1 – 5 minutes.
   - For all other chemicals, concentration and exposure time must be as per manufacturer’s specifications.
   - Legal requirements have to be met
   - Effectiveness of the sanitizer has to be checked – Results has to be documented.

Related Documents
- Checklist SOP 7 – Disinfection Vegetables/Fruits

Responsible: Production Staff Corporate:
SOP 8 Food Handling

Purpose
Food shall be handled in such a way that:
• Unsafe microbiological, physical or chemical food contamination from food handlers, food handling equipment and environment is prevented.
• Unsafe microbiological growth is prevented.

Scope
Handling of raw foods of animal origin, raw foods of vegetable origin and ready-to-eat foods.

Definitions
By segregation is understood prevention of contamination of ready-to-eat food from unclean food or equipment by:
• Level I: Designated handling areas, separated by walls or partition walls, for raw foods of animal origin and raw foods of vegetable origin respectively.
• Level II: Designated equipment within same handling area (designated worktables, handling utensils (e.g. hand utensils, cutting boards) and machines (e.g. slicers, mincers, mixers).

Procedure
1. Prevention of Microbial Contamination of Ready-to-Eat Foods from Raw Food
Worktables for preparation and handling of raw foods of animal origin must not be used for preparation or handling of raw foods of vegetable origin or ready-to-eat foods, unless a documented procedure of cleaning and disinfection of machine after preparing raw foods is in place.

Work tables, sinks for preparation and handling of raw foods of vegetable origin must not be used for preparation or handling of raw foods of animal origin or ready-to-eat foods, unless a documented procedure of cleaning and disinfection of machine after preparing raw foods is in place.

Cutting boards for preparation and handling of raw foods of animal origin shall be identified by specific colour or mark and must not be used for handling of other foods.

Cutting boards for preparation and handling of raw foods of vegetable origin shall be identified by specific colour or mark and must not be used for handling of other foods.

Ready to use items (e.g., washed/sanitized Vegetables, heat treated items of animal origin, ready to eat food (cheese, ham etc.) shall only be handled on white cutting boards.

Knives and other handling utensils must be cleaned and/or disinfected after each handling job.

Individual food preparation machines such as mincers, mixers, slicers should be designated for raw or ready-to-eat foods respectively.

Individual machines may be used for ready-to-eating as well as raw foods only when a documented procedure of cleaning and disinfection of machine after preparing raw foods is in place.

Level of segregation shall be determined by factors such as:
• Volume of raw foods of vegetable origin
• Volume of raw foods of animal origin
• Available space of food handling areas
2. Prevention of Contamination of Ready-to-Eat Foods from Food Handlers
Food handlers shall comply with procedures of SOP 9 Personal hygiene procedures. Food handlers shall be trained in food safety issues relevant to their job as indicated by training survey of SOP 13 Food Safety Training procedure.

3. Prevention of Microbiological Contamination of Ready-to-Eat Foods from Food Handling Equipment
Food handling equipment shall be cleaned and disinfected after each use and thereafter re-used or stored clean and dry as described in SOP 10 Cleaning procedures. Disinfection of food handling utensils like knives may be performed by:
- Thermal disinfection in machine
- Pre-cleaning and soaking for a few minutes in a chemical disinfectant solution (Quaternary ammonium compound, Iodophor or Chlorine compound) of appropriate strength
  Manual wipe-off by an alcohol-based disinfectant

4. Prevention of Microbiological Contamination from Environment
Food handling environment shall be maintained and kept clean in order to prevent unsafe chemical, physical and microbiological contamination from the food handling environment. Outer packaging material must not enter food handling areas.

Raw foods for subsequent cooking should be prepared/handled in such a way that excessive microbial growth is prevented. Accordingly, food handling time should kept short, e.g. 45 - 60 minutes, and food surface temperature should not exceed 15°C (59°F).

5. Inhouse freezing
All foods which require in house freezing to extend the shelf life of the product or to aid in the production of the product. (Freezing of raw materials and inhouse product should only be carried out in exceptional circumstances unless it is part of the production process).

Definitions
- Freezing - Method of preserving food by lowering the temperature to inhibit microorganism growth.
- Blast freezer- unit which freezes food down below -18˚c in 4 hours.

Procedure
At the end of the blast chilling process the food should have been cooled to +5˚c within 4hours. (Target 2 hours)
The food should have been portioned into batch sizes which allow the food to be cooled within the specified time.
The food must be placed into containers or packaging that will withstand the freezing process, the container should not be made from brittle plastic or any material which will break up when exposed to cold temperatures and only small quantities should be frozen.
If a product, as supplied, has a “use by” date it can only be frozen if it is to be cooked later.
Correctly label the product with date of freezing, name of product and shelf life.
Seal the container or packaging with as much air excluded as possible. The smaller the size and the tighter the packaging, the quicker the food will freeze. Denser food will take longer to freeze.

Place in the appropriate unit and make sure that the machine is operating as a blast freezer. Blast freeze the food to -18˚c within 4 hours.

Once the food has been frozen place into the holding freeze and use within 3 months from the date of production.

Once the product has been defrosted use within 24 hours, never refreeze once the product has been defrosted, (for thawing procedure see PRP006). Once defrosted, the product must follow the standard shelf-life criteria.

Food should be checked for freezer burn during storage.

**Related Documents**

- Checklist CCP 5

**Responsible:** Production Staff **Corporate:**
SOP 9 Personal Hygiene

Purpose
To prevent microbial and physical food contamination from food handlers and to ensure adequate protection measures by employees and visitors.

Scope
This policy applies to employees who have direct manual contact with food, also applies to external visitors to food handling areas, who may have direct food contact during their visit and to the unit management.

Definition
Food handlers are employees who during their work have direct manual food contact, especially employees of food handling areas e.g., cold kitchen, hot kitchen, pastry / bakery, tray setting. Possible staff from other areas, which may occasionally or regularly be employed in food handling areas are also considered food handlers.

Procedure
1. Restrictions for Food Handling
Food handlers must be fit for food handling.
Food handlers suffering from skin infection (boils, discharging cuts and wounds, heavy burns, heavy eczema) must not handle food until cleared by a competent Medical Authority.
Food handlers suffering from confirmed (diagnosed) intestinal infection must not handle food until cleared by a competent Medical Authority.
Food handlers with symptoms of intestinal infection (diarrhoea, abdominal pain, vomiting, possibly fever), sore throat, jaundice, must not handle food until cleared by a competent Medical Authority.
Food handlers shall be instructed to report immediately to management when experiencing symptoms of intestinal infection or skin infection.

2. Control of Gastro-Intestinal Infections nasal /throat infections and Skin Infections of Food Handlers
Control by interview and signing of Health Agreement for DO & CO Food Handlers shall be made upon new employment and confirmed annually.
Annual stool testing of each food handler and cleaning staff. The test has to be realized preferential after visiting countries with increased risks of infections.

Procedure for control upon new employment:
- All Applicants shall fill in Health Agreement for DO & CO.
- If applicant reports or appears to suffer from chronic or recurring eczema /skin rash the applicant shall not be employed for food handling.
- If applicant is suffering from boils, discharging wounds/cuts, the applicant shall not be employed for food handling until condition is confirmed healed by a competent Medical Authority.
If applicant is suffering from diarrhoea, sore throat or jaundice, the applicant shall not be employed for food handling until examined and subsequently cleared by a competent Medical Authority.

Stool test.

Procedure for annual confirmation of Health Agreement for DO & CO Food Handlers

- All employees shall fill in Health Agreement
- If a food handler is suffering from chronic or recurring eczema the food handler shall use disposable gloves in all food handling or be transferred to a non-food handling position. In addition, the food handler shall be offered medical treatment if locally available.
- If a food handler is suffering from boils, infected wounds/cuts the food handler shall be removed from food handling and sent for medical treatment. The food handler may return to food handling after clearance by a competent Medical Authority.
- If a food handler is suffering or was suffering last 60 days from diarrhoeal disease the food handler shall be removed from food handling and sent for medical examination including stool testing. The food handler may return to food handling after clearance (as per national legislation) by a competent Medical Authority.
- If a food handler is suffering or was suffering last 60 days from other infectious disease assumed to be transmissible through food, a DO & CO Regional QA shall be consulted.

3. Hand Hygiene

Food handlers shall maintain skin and nails of hands in a good condition. Nails shall be kept short and without nail polish. False nails have not to be used during food handling. Rings, bracelets and watches are restricted in food handling, as per section 5. Personal Hygiene Restrictions of this chapter.

Hands shall be washed whenever needed, especially at the following occasions:

- When entering food handling areas
- Before starting work
- After handling raw food
- After visiting the toilet, eating, drinking, coughing, sneezing and smoking
- Before and after use of disposable gloves
- After breaks
- After completion of unclean tasks
- After touching potentially contaminated surfaces such as raw food products or any skin
- In all other instances where cross contamination may be an issue.

Hand wash shall be performed thoroughly by use of soap and warm water. Hands shall be dried thoroughly after washing.

Wound and Infection Control

Cuts, scratches, burns, lesions and other wounds between elbow and wrist not showing signs of infection shall be covered with a waterproof, coloured dressing or plaster. During food handling, the dressing or plaster must be covered by a disposable glove.

Cuts, burns, lesions and all other wounds on hands shall be covered with a coloured plaster (preferably blue) and a waterproof glove.

Employees with secretions or discharges must be excluded from direct food contact work.

All food items have to be disposed, all equipment has to be cleaned/sanitized that the employee was working with when cut or wounded.

First aid boxes, containing coloured plasters, antiseptic lotion, waterproof dressings, plastic gloves have to be available to all employees

Hand Hygiene during Handling of Ready-to-Eat Foods (Glove Policy)
Hand wash is an effective method for removal of transient bacteria from skin of hands. Hand wash is not an effective method for removal of *Staphylococcus aureus* from skin of hands of Staph. aureus carriers, and hand wash is difficult to monitor.

Use of disposable gloves is an effective and recommended food protection measure, provided that gloves are whole and undamaged. Use of gloves may easily be monitored visually.

For the above reason’s direct manual handling of ready-to-eat foods shall be performed by use of disposable gloves. In specific cases, where gloves may be difficult to use or where gloves may constitute a potential health & safety hazard, use of gloves may be replaced by a hand wash and then use of skin disinfectant.

Food handlers shall dispose and replace gloves at following occasions:
- Before starting work
- Following breaks, visiting toilets, eating, drinking, coughing, sneezing and smoking.
- After touching potentially contaminated surfaces such as raw food products or any skin.
- After changing product type
- In all other instances where cross contamination may be an issue.

Before wearing new gloves, hand wash shall be performed thoroughly (see above).

Hand disinfection: Use of alcohol-based (70%) hand disinfectant including skin moisturizer after hand wash is the preferred choice of skin disinfectant. Use of disinfectant may not replace hand wash.

*Instructions for use of alcohol disinfectant:*
- Dispense 3 ml into hands
- Rub hands to disperse disinfectant
- Let air dry for 30 seconds before resuming food handling

4. Working clothes

Food handlers shall wear suitable and clean working clothes (as indicated below), incl. hair cover, and maintain a neat visual appearance.

The working clothes consist of:
- trousers
- jacket, apron, coat, blouse or shirt
- possible additional clothing supplied for reason of comfort, such as insulating vest
- head gear
- Uniform must be changed when necessary.
- Uniform must be commercially cleaned.
- Hairnets must completely enclose hair
- Facial hair shall be covered with a beard snood
- Disposable sleeves must be worn to cover the forearms

Apron must never be used as cloth.

5. Personal Hygiene Restrictions

In order to prevent food contamination and to satisfy expectations of customers and authorities the following personal hygiene restrictions apply:
- Smoking, eating, drinking, spitting and chewing gums are not permitted in areas for production, storage, handling and transportation of airline food and equipment.
- Jewellery, such as necklaces, bracelets, watches, finger rings, earrings, must not be worn by food handlers during food handling.
- Plain wedding bands or similar religious jewellery are tolerated if they are not difficult to clean.
- Fingernails has to be kept short
• Nail polish must not be worn by food handlers during food handling.
• False nails must not be worn by food handlers during food handling.
• There must be a first aid box available accessible to all employees every time. First aid box must contain a sufficient supply of each of the following.
  - coloured waterproof plasters
  - antiseptic lotion

6. Visitors to Food Handling Areas

Visitors who intend to enter into handling area shall be asked to complete a “Health Questionnaire” before entering.

Visitors who declare and also show sign of any gastrointestinal and nasal /throat infection are not allowed to enter into food handling area.

Visitors with infected skin problem cannot enter unless they accept to wear gloves in food handling areas.

Related documents
• Health Agreement for Food Handlers
• Questionnaire for visitors
• Medical examination (stool testing)

Responsible: All staff

Corporate:
SOP 10 Cleaning and Disinfection

Purpose
To ensure visual cleanliness of non-food and food contact surfaces, as well as microbiological cleanliness of food contact surfaces.

Scope
Cleaning procedures include three main cleaning areas, namely:
- Cleaning of kitchen equipment and utensils (Pot wash)
- Cleaning of airline tray equipment, trolleys and liquid containers (Dish wash)
- Manual cleaning of main surfaces and fixed equipment of food handling areas.

Procedures
1. Storage and Labelling of Chemical Agents Used for Cleaning and Sanitization
Chemical agents have to be stored in safe distances to food
All chemical agents have to be labelled
Specification sheets are for all chemical agents available

2. Selection of Detergents and Disinfectants
Detergents and Disinfectants which are used in production areas has to be food graded. For each product a specification sheet has to be available.

3. Cleaning Program
Procedures of daily cleaning and periodical cleaning shall be detailed in a cleaning program.
Cleaning program must specify each of the following.
- surface or areas must be cleaned if required disinfected
- Frequency of cleaning and disinfection
- Method of cleaning and disinfection
- Chemical agents to be used and the procedure of application (concentrations, contact time, equipment required etc)

4. Cleanliness and Maintenance
All structures
- has to be clean and free of dust, grease, food residue and dirt
- well maintained
- smooth and washable
- Refrigerators/freezers free of water or ice accumulation
- Food products are placed at least 6 inches off the floor
- Food contact surfaces has to be hard, non-adsorbent, smooth, non-toxic, resistant to corrosion, resistant to migration, resistant to the transfer of odour and colour

5. Pot wash
Primary duty of the pot wash is to ensure safe wash, disinfection and storage of food equipment and utensils.
The pot wash may be performed in the dish wash area or in a separate pot wash area.
A separate pot wash area shall be located as to ensure short transportation of goods from production area to pot wash and vice versa.

The pot wash shall be separated by walls, partition walls or by distance from food handling and storage areas.

Pot wash may be performed by manual procedure or by use of washing machine in combination with a manual pre-wash arrangement.

For Manual Pot Wash the following steps apply:

- Prewash or pre-scraping to remove major food debris
  - 1st sink: Wash
  - 2nd sink: Rinse
  - 3rd sink: Disinfection

Chemical or thermal sanitization can be used. For chemical sanitization subsequent described disinfectants are available:
<table>
<thead>
<tr>
<th>Disinfectant</th>
<th>Temperature as solution</th>
<th>Concentration</th>
<th>Immersion time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorine</td>
<td>24-44°C/75-110°F</td>
<td>50-100ppm</td>
<td>1-2 minutes</td>
</tr>
<tr>
<td>Iodine</td>
<td>24-49°C/75-120°F</td>
<td>12,5-25ppm</td>
<td>1-2 minutes</td>
</tr>
<tr>
<td>QAC</td>
<td>24-44°C/75-110°F</td>
<td>200-300ppm</td>
<td>1-2 minutes</td>
</tr>
</tbody>
</table>

Other chemicals in accordance with manufacturer’s specifications.

Utensils and equipment must be thoroughly rinsed after disinfection.

For thermal sanitization a surface temperature of at least 71°C (160°F) for 30 seconds has to be reached on the equipment.

Used machines shall be maintained, incl. function of spray nozzles, and cleaned as prescribed, incl. descaling by acid detergent.

Temperature of wash water shall be 55 - 65º C (131 – 149°F)

Effectiveness of Sanitization (either thermal or chemical) has to be checked on daily base. The results have to be recorded:
- Date of cleaning/sanitization
- Concentration/immersion time of chemical disinfectant (if used)
- The temperature of rinsing water by using thermal labels.

**Storage of Clean Equipment**

Clean equipment shall be visually clean and stored as to permit quick drying.

Visibly unclean equipment shall be sorted out for soaking and re-washing before storage in clean equipment section.

**Storage of Specific Utensils**

*Cutting boards* shall be stored vertically with air space in between as to ensure quick drying.

*Piping bags*: Sole use of disposable bags is recommended. Tissue bags may be used as support for disposable types when piping heavy foods. If used, tissue bags shall be stored after wash as to ensure quick drying, i.e., on racks.

*Food containers* shall be stored upside down.

**6. Dish wash**

The dish wash area shall be separated physically or by ample distance from food handling/storage areas and from waste disposal area. The area shall be well ventilated and protected efficiently against rodents, insects, and birds.

The dish wash area shall consist of the following sections:
- Storage of unclean equipment
- Disassembling area
- Wash area
- Storage clean equipment

**Storage Unclean Equipment**

The area shall fulfil possible legislative requirements as to maximum room temperature.
If incoming airline equipment is stored for more than 12 hours, a room temperature of maximum 10-12°C is recommended. The area shall be separated from off-loading ramp and from other areas of the dish wash.

Maximum storage time under temperature-controlled conditions: 48 hours.
Maximum storage time without temperature-controlled conditions: 24 hours.

**Wash & Disinfection Procedure**

Machine shall be maintained, incl. function of spray nozzles, and cleaned as prescribed, incl. descaling by acid detergent.

Temperature of wash water shall be 55 - 65°C (131 – 149°F).

Temperature of final rinse, as monitored on machine thermometer, shall fulfil local legislation to temperature and water pressure with recommended temperature minimum of 83°C (181°F).

Final rinse shall provide a time/temperature treatment corresponding to low pasteurization, as measured by 71°C (160°F) thermo label.

Daily recording of wash and rinse water temperatures must be maintained. Thermo label test shall be carried out once a day. Checks with calibrated Logger or Thermo Sensor are allowed.

**Storage of Clean Equipment**

Clean equipment shall be visually clean and dry before stacking and storage.

Equipment should be stored upside down. If this is not possible, equipment has to be covered.

Unclean equipment shall be sorted out for soaking and re-washing before storage in clean equipment section.

Store for clean equipment shall be well separated from other dish wash sections, either by wall or by distance.

**7. Manual Cleaning Procedures**

Daily and periodical cleaning procedures shall be performed according to a written cleaning program.

**Cleaning Utensils**

The unit shall consistently be supplied with cleaning utensils of adequate amount and quality. Utensils shall be made from synthetic materials and shall be well maintained.

A designated space, segregated from food handling and storage, shall be available for storage of cleaning agents and utensils.

Cloths for wipe-off purposes shall be disposable type.

**Cleaning and disinfection of food contact surfaces**

Cleaning of food contact surfaces includes tables, cutting boards, slicers, can openers, thermometers, knives, scoops, mincers, mixers, blenders and utensils shall include a disinfection.

Disinfection may be achieved by application of chemical disinfectant after normal cleaning or by cleaning with a combined detergent / disinfectant.

All food contact surfaces must be cleaned and disinfected at each of the following times.
• Before use
• After use and
• In between uses with different food items

Chemical disinfectants must be used in accordance with the following specifications.

<table>
<thead>
<tr>
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<td>200-300ppm</td>
<td>1-2 minutes</td>
</tr>
<tr>
<td>Other chemicals</td>
<td>in accordance with manufacturer’s specifications.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Utensils and equipment must be thoroughly rinsed after disinfection.

Other chemicals in accordance with manufacturer’s specification.

Cleaning of Aircraft Modules

Interior and exterior surfaces of food modules (cabinets, carts) shall be washed by a combined detergent/sanitizer.

Cleaning of Aircraft Flasks (Liquid Containers)

Flasks shall be cleaned by use of a combined detergent/sanitizer.

If used for perishable foods, such as soup, fruit juice, taps of containers shall be dismantled prior to wash and be washed/sanitized separately.

Taps of liquid containers to be protected against contamination by alu-wrap during storage and transportation.

Related Documents
• Cleaning Program
• Dish washer temperature check list

Responsible: Cleaning Staff
Production Staff

Corporate:
SOP 11 Physical Hazards

Purpose
To prevent physical contamination of food.

Scope
Purchased food and in-house produced food at any stage during production, handling, storage and delivery to the customer.

Definition
A physical hazard is a foreign body in food with the potential to cause an adverse health effect. Contamination of food with a foreign body may compromise product safety and can significantly damage a food business.

Common hazardous foreign bodies include pieces of glass, light bulbs, airline catering equipment, staples, strings, rubber bands, metal objects, twist ties, hair, buttons, plastics, minerals, wood. Other food-related foreign bodies include hair, plasters and insects.

Procedures

1. Glass Handling Procedure
Use of glass in food handling areas shall be avoided.

- All glass surfaces shall be covered with a proper plastic film.
- Food in glass packaging should be purchased in alternative packaging when available
- Opening of glass jars shall be done outside of food handling area.
- Content of glass jars shall be transferred into a plastic or stainless-steel containers for storage
- Glass jars must be stored at the lower shelf in plastic bins or any other package that supports safe storage.
- Glass jars must always be transported in plastic bins
- Customer glass equipment must also be stored in plastic bins.
- Customer glass equipment must be checked before use. Chipped cracked or otherwise damaged items shall be discarded.
- In case of breakage in food handling area all glass pieces shall be picked up and be wrapped with paper and thrown away in a waste bin. Possible food likely of being contaminated shall be discarded
- Lamps, of fly catchers, must be coated with a shatterproof film.
- When breakage of glass, china or melamine occurs in food handling area a breakage checklist shall be completed.
- A documented glass and clear plastic register must be implemented in all units and regular audits must be carried out and documented.
- All suppliers shall be asked to implement an effective glass control procedure. Effective measurements have to be specified to the customer.

2. Metal handling procedure
- Food handlers must not wear metal rings, earrings, necklaces, bracelets, facial studs.
- Foods in packages with metal clips must not be brought into the food handling area.
- Tins have to be opened and decanted outside of areas where opened food is handled or stored.
• Using staples or similar is not allowed
• Technicians who do maintenance work in the food handling area shall take all precautions to avoid food contamination by metal pieces.
• Through preventive maintenance presence of loose metal pieces on the equipment shall be prevented.
• After maintenance in a production or storage area the working place has to be controlled by a responsible person, and the area or equipment signed off before being allowed back into production.
• All suppliers shall be asked to implement an effective metal control procedure. Effective measurements have to be specified to the customer.

3. Stone / hard piece control procedure
• Fruits and particularly vegetables must be thoroughly washed to remove the foreign objects
• All suppliers shall be asked to implement an effective stone control procedure

4. Hair control procedure
• All food handlers must cover their hair with a head cover
• Arm sleeves shall be used to cover the forearms
• All food handlers shall wear protective uniforms
• Facial masks shall be used to cover beard, moustache
• Food handlers shall not dispose or replace gloves near to the working tables
• All foods in the stores must be covered to prevent foreign object contamination.

5. Wood procedure
• It is not allowed to use equipment or utensils made out of wood except working surfaces necessary for dough manipulation. This surface has to be well maintained and regular inspections carried out.
• Unavoidable utensils (sushi bamboos) shall be maintained well and cleaned/disinfected thoroughly before used.
• Fruits and particularly vegetables must be thoroughly washed to remove the foreign objects

6. Other
Rubber bands have to be avoided. Bands which are part of vegetable packaging has to be removed before entering areas where open food handled.

All kind of packaging materials which can cause physical contamination has to be removed before entering areas where open food handled.

Flasks with sealed plastic screws has to be opened in areas where no open food is handled.
All persons have to be trained to clean shoes before entering the production area.

Documents
• Glass breakage record
• Supplier Audit Checklist

Responsible: All Staff  Corporate:
SOP 12 Chemical Hazards

Purpose
To protect food from chemical contamination

Scope
Purchased food and in-house produced food at any stage during production, handling, storage and delivery to the customer

Definition
Some harmful chemicals which may be available in the food handling areas for different purposes can contaminate food.

Procedures

1. Contamination from the cleaning chemicals
   • Cleaning agents shall be stored separately
   • Cleaning agents to be used in the food handling area shall be stored at a safe distance from all food items.
   • All chemical agents shall be identified with labels
   • Only approved chemicals shall be used in the unit.

2. Contamination from pest control agents
   • Pest control chemicals must only be by the pest control contractor staff
   • No spray chemical treatment against pests shall be applied in food handling areas.
   • No rat and mice stations with poisonous feed shall be allowed in the unit.
   • Only approved chemicals shall be used by the pest contractor.

3. Contamination from lubricants
   Only food grade lubricants must be used for food equipment.

4. Pesticides
   • Suppliers of food have to meet legal requirement
   • Fruits and particularly vegetables must be thoroughly washed

Responsible: All Staff Corporate:
SOP 13 Food Safety Training

Purpose
Managers and employees are trained to provide knowledge and skills required to assure safe food preparation.

Scope
Food Safety Training for managers and employees.

Procedure
Training of Managers
Management shall be trained to have a complete understanding of DO&CO Food Safety system.

New Employee Training
All employees have to read the Hygiene instructions for new employees. Short examination has to be done. In case of failure the test they have to be instructed by the QA. Employees have to sign that they understood given information. The signed form has to be stored in the personnel file.

Refresher training
- Once per year all employees shall be trained on relevant CCP's and SOPs. Training survey shall be used to plan refresher training.
- Refresher training shall also be carried out any time for employees whose food safety practices show deviations from the standard.
- All employees shall be trained on the training module, introduction to Food Safety and Hygiene as basic training module.
- The effectiveness of the training has to be checked by the trainer by written tests or quizzes.

Related Documents
- Training survey
- Training records
- Training record for new employees
- Basic Food Safety Training Module; introduction to Food Safety and Hygiene
- CCP and SOP training modules

Responsible: Quality Assurance  Corporate:
SOP 14 Validation of Measuring Equipment

Purpose
Temperature measuring instruments shall be validated to ensure their accuracy.

Scope
Unit thermometers for control of temperatures of food, refrigerators, freezers, dish washers and food handling areas, i.e., fixed / loose thermometers of cold stores, dishwashers, probe thermometers and Infra-red thermometers

Definitions
By validation is understood in this context: Validation of unit thermometers by use of calibrated probe thermometers.

Procedure
- Thermometers must be available at all times on the equipment and in the areas where a temperature measurement is required.
- Thermometers shall be validated by use of a calibrated reference probe thermometer or by using ice water and/or boiling water.
- Thermometers in cold stores have to be validated at least twice a year. Probe- and surface thermometers have to be checked monthly.
- Each thermometer (probe, cold store, infrared) shall be identified with a code and validation records of thermometers shall be maintained.
- When a thermometer reveals any deviation within a tolerance of ±1°C for probe thermometer and ambient thermometer and ±2°C for infrared thermometer this deviation shall be noted on the records. If deviation exceeds this tolerance, thermometer must be adjusted or replaced.
- Calibrated reference thermometer must be checked periodically with records to confirm.
- The company which performs the calibration of reference thermometer must be accredited.

Related documents
- Thermometer validation records

Responsible: Quality Assurance  Corporate: Engineers
SOP 15 Preventive Maintenance

**Purpose**
To ensure that all the equipment which have direct impact on food safety are under a preventive maintenance program in order to secure that they are functioning consistently.

**Scope**
All the equipment which have direct impact on food safety (cold stores /freezer, oven, blast chillers, air chilling, pot / dish wash machines, refrigerated trucks etc.).

**Procedures**
A preventive maintenance program that includes the periodic maintenance plan of the food safety related equipment shall be prepared and implemented.

Preventive maintenance program shall include the daily, weekly, monthly, three monthly etc. maintenance work for the concerned equipment.

**Related documents**
- Preventive maintenance program

**Responsible:** Engineers  
**Corporate:** Quality Assurance
SOP 16 Pest Control

Purpose
To ensure that chemical, physical and biological hazards caused by rodents, flying and crawling insects are prevented.

Scope
Control of pests in all areas of the unit

Procedure
Preventive Measures

• Openings (doors, windows, etc.) of catering building shall be kept closed or be equipped that access of pest is prevented. Windows kept open shall be fitted with flynet.

• Where necessary, insect-o-cutors shall be installed. Installation preferably max.2 meters above floor level, not directly above food handling activities and not to be visible through openings to outside. The use of sticky surface typed insect-o-cutors is recommended.

• Preventive pest control inspections for presence of rodents, flying and crawling pest must be carried out at defined and sufficient intervals by a competent contractor.

• Areas, including drains shall be rodent proof.

• Animals e.g., cats, dogs and birds must not be found inside premises.

• Preventive actions against birds outside of premises, especially in the delivery and loading area, has to be addressed.

• Outside waste collection areas have to be controlled by the contractor.

• Records of pest control activities shall be kept on site.

Related documents

• Documents by the pest contractor

Responsible: Quality Assurance  Corporate:
SOP 17 Water Treatment

Purpose
Water used for food production must be safe. Water used for cleaning and pot/dish washing must be at specified quality.

Scope
Water and for food production, cleaning and pot/dish washing

Procedure
- Water supplied to the unit for food production must be in accordance with “Guidelines for drinking water quality WHO” and local legal requirements. Unit shall get documented proof that supplied water is at required microbiological and chemical quality.
- When the safety of supplied water is not guaranteed unit shall install some systems to ensure that water is disinfected (chemical disinfection, UV application etc)
- Unit shall check and document the disinfection effectiveness of the system periodically.
- Hard water shall not be used (over 5-6 German hardness) for cleaning and pot / dish washers as hard water complicates cleaning. Water softener shall be used to decrease water hardness.
- Water used for ice machine must be safe. Active carbon filter can be used to remove undesired odour, taste of water used for ice machines and tea / coffee pots.

Related documents
SOP24 Analysis of Food, Water, Hands and Surfaces.

Responsible: Engineers Corporate: Quality Assurance
SOP 18 Traceability, Product Recall and Legal Labelling of Food

Purpose

In case of awareness of an incident which can cause severe or temporary impairment of health, further harm has to be minimised, this includes:

1. Analysing the problem
2. Informing all relevant parties
3. Analysing the source of the problem and traceability
4. Setting corrective actions

For minimising the consequences of an incident, the unit has to implement a system for traceability:

- Trace within a reasonable time the supplier of a food or a beverage determined for recall.
- Track within a reasonable time the customers to whom the food or beverage for recall is supplied.

Scope

Tracing and tracking of any given food or beverage following the principle of “one step back, one step forward”, by means of an IT system or by manual checking of Meal Specifications, Beverage/Bar specifications and Miscellaneous Specifications.

Definitions

**Tracing**: Systematic identification of the supplier from, or through, whom a food or beverage has been purchased.

**Tracking**: Systematic identification of the customers to whom the food or beverage has been supplied.

**Internal tracking**: Systematic identification of additional menus (in addition to the primary menus in which the food is used) in which the actual food, or residuals hereof, is used as an ingredient.

**Recall**: used in situations when there is a reasonable probability that use of a product will cause serious foreign body contamination or is likely to cause serious health consequences. Withdrawal of a product from the marketplace by manufacturer, supplier, health authority or customer due to minor violation that is not subject to legal action.

Product suspected of adulteration or contamination that is restricted from use, is held and labelled pending confirmation of test results, risk assessments, etc.

**Meal specifications**: Specifications of the entire selection of meals supplied to customers.

**Beverage/bar specifications**: Specifications of the entire selection of beverages / bar items supplied to customers.

Examples which can activate Traceability or Product Recall:

- Presence of a microbiological pathogen
- Food product contaminated with a toxic chemical
- Presence of a life threatening undeclared allergen
– Glass or metal fragments in food
– Unsafe pesticide residues
– Presence of Histamine in fish
– Labelling violations
– Mould or yeast contamination
– Spoilage

Procedure

Each unit should have clearly displayed an internal plan which shows necessary steps have to be taken and emergency contact information. The following steps has to be organized:

1. Analysing the problem (Which meals and where are the meals now?)
   Analysing if the food or food components
   1. were already sent to one or more customers
   2. were already served to consumers
   3. are still in the unit or under the control of DO & CO

2. Informing all relevant persons which can contribute in minimising the potential harm or finding the source of the problem
   Establish appropriate Point of Contact at customer organisation; notification should occur immediately after realisation of recall / withdrawal / hold.
   Relevant persons who can assist in the event of a recall are:
   – Unit management
   – Head chef
   – Dispatch
   – Supplier
   – Customer
   – Quality Assurance
   Depending on the type of incident local authorities, Insurance companies or DO&CO law department has to be informed. This has to be decided by the unit manager.

3. Analysing the source of the problem and traceability
   Analysing which components, ingredients or auxiliary materials could have caused the incident, which meals were produced with the risk items and where the meals and / or the risk items are stored.
   Traceability is carried out
   – by verifying records and files which give relevant information to the effected product and used raw materials and auxiliary materials and
– by implementing a labelling system which allows the identification of products and batches.

**Ad. Traceability**

Unless National authorities impose a stipulated a system, the simplest form of basic traceability shall be implemented. For basic traceability we shall implement a system enabling us to track customer and trace supplier but not individual batches of any given food.

This basic system is assumed to be the most cost-effective because the saving on operating cost is assumed to more than compensate for the increased cost of a possible product recall tracing at product level and not at batch level. Where possible IT applications shall be used to develop a basic traceability system.

**Ad. Labelling**

**Food labelling**: A labelling system in order to conform to “The Food Labelling Regulation 2000/13/CE”, food safety standard, customers’ expectation and / or national regulations where stricter must be implemented.

**Allergen**: Packed products must indicate the content of any allergenic substances. Allergen labelling must be clearly visible and would normally be provided in an allergen information panel on the product label. As well as for free of allergens meals (SPML) the label has to carry as much information as needed to define the meal itself.

In the case of non-sealed food, we must indicate the use of any of the allergens at the menu presentation and cooks should adhere to any guidelines. In the event of menu substitution, extra care must be taken to ensure that allergen labelling is adhered to and changes made as necessary.

Please see also SOP 2 (Control of Allergy Related Special Meals).

**Genetically Modified Food**: Whenever GM free meals are requested by a customer, the following procedure shall apply

– For purchased foods, the supplier shall be asked to guarantee that the food is free of GM organism. The answer shall be documented through the GM Policy Questionnaire.

– Label of food shall be checked. This applies to purchase foods in areas where local food legislation requires labelling of possible GM ingredients.

– Possible soy and corn (maize) and tomato ingredients shall be checked for GM ingredients which identified on the label.

**Label system status**

– each Major Equipment (trolleys and boxes) and all other container types must have a correct label attached to it

– all labels must be attached to the front of the equipment and have galley number and stowage number on them

– Easy Identification of Special Meals by visible labels has to be ensured.

**4. Setting Corrective Actions**

Elimination of the risk items

Contacting and information of the customers or affected consumers

**Responsible:** All responsible Staff **Corporate:**
SOP 19 Facility Requirements

Purpose
To facilitate safe food production, storage, handling and transportation, as well as to fulfil expectations of customers and Health Authorities.

Scope
Requirements of this standard procedure are valid for new constructions as well as major refurbishments of existing units.

Definitions

Procedure

Exterior Areas
Exterior surfaces for transportation, parking and storage adjacent to the building shall consist of concrete, asphalt or similar hard-surface material. Such surfaces shall be designed as to prevent accumulation of water (in case of flooding).

For pest control reasons vegetation, especially bushes and trees shall preferably be avoided on the entire site, especially near the catering building. The minimum distance between possible vegetation and the building should be 2 metres. Possible vegetation must be kept tidy.

Weeds litter and waste must be removed from exterior surfaces on a regular basis as to ensure good visual impression of exterior.

Area for receiving of purchased foods shall be segregated from area for receiving of incoming equipment and food waste from aircraft.

Layout of Catering Unit
The catering unit shall be designed in such a way that:

- Clean and unclean areas, processes and products are segregated
- Cold chain of food is maintained throughout the food flow

The final lay-out of new units and major modifications of existing facilities shall be assessed by Regional QA.

Segregation Principles

Segregation in food storage (refrigeration):

- Raw foods of animal origin shall be stored in separate refrigerators used only for storage of these raw foods.
- Raw, unwashed foods of vegetable origin shall be stored in separate refrigerators used only for storage of these raw foods.

See also SOP 5 Food storage procedure
Segregation in food handling:

- Raw foods of animal origin shall be handled in one or several areas which are segregated from ready-to-eat food handling areas by walls, partition walls or ample space.
- Raw foods of vegetable origin shall be handled in one or several areas which are segregated from ready-to-eat food handling areas by walls, partition walls or ample space.

See also SOP 8 Food handling procedure.

Segregation requirements in other areas

Pot wash: See SOP 10 Cleaning & disinfection procedures
Dishwash: See SOP 10 Cleaning & disinfection procedures.

Control of Ambient temperatures

Food handling areas

In order to enable compliance with CCP 5, a maximum ambient temperature of 18°C of areas for handling of chilled food is set for new facilities and major refurbishments.

In order to facilitate easy compliance and minimizing CCP 5 control documentation, it is strongly recommended, at least for new constructions and major refurbishments, to operate ambient temperature of food handling areas below 15°C.

Ambient temperature of heat-generating food production areas, such as hot kitchen and bakery, should preferably not exceed 28°C for staff comfort reasons.

Non-food handling areas

Ambient temperature of dish wash and pot wash areas should preferably not exceed 28°C for reasons of staff comfort and pest control.

Ambient temperature of staff facilities should preferably not exceed 28°C for staff comfort reasons.

Hygienic Quality of Surfaces and Installations

General criteria

Material and design of surfaces of the catering unit shall be selected with due consideration of the intended use as well as the intended cleaning method.

In general surfaces shall be durable, non-absorbing, non-corrosive, smooth and easy to clean. In addition, surfaces shall fulfil possible requirements to work protection.

Surfaces shall be maintained, kept clean and tidy to the extent which satisfies DO&CO corporate identity, local legislation and customer expectations.

Damage, breakage of food contact surfaces, food equipment and utensils shall be repaired or exchanged in order to prevent food contamination with foreign bodies.
Floors
Floors shall consist of:
• Tiles with joints applied level with tile surface
• Alternative material with similar properties with regard to durability, imperviousness and cleaning properties, e.g., epoxy based and similar approved materials.
Practical colours of floor surfaces should be chosen.
Floors of wet areas shall be laid out so that water from cleaning etc runs towards the drains and does not stagnate on floor.
Connection between walls and floors shall be coved skirting.

Drains
Drains shall be of sufficient size.
Drains of wet areas shall be installed in such a way that water will flow from floor into drains without formation of pools of stagnant water around drains.
Drain gratings shall be rat-proof and shall be easily removable for cleaning.
Walk-in refrigerators shall have no drains.
For new (re)constructions food industry recommended drains has to be used
Drains must flow from high-risk areas to low risk areas.

Walls
Walls shall be solid without interior hollow space for pest control reasons. Wall surface shall be smooth and easy to clean. Surface to a minimum height of 2 metres shall consist of:
• Tiles with joints applied level with tile surface
• Alternative material with similar properties with regard to durability, imperviousness and cleaning properties, e.g., epoxy based and similar approved materials.
• Surface material shall be fitted tightly to the wall in order to prevent formation of hollow space between wall and surface.
Surface penetrations for pipes, ducts etc. shall be effectively sealed for pest control reasons.
Whenever necessary walls and wall corners shall be protected by suitable fenders of stainless steel or synthetics. Fenders shall be designed and installed as not to provide hiding places for pest.
Tops of partition walls less than 2 metres height shall decline 45 degrees in order to prevent accumulation of dust and possible storage of irrelevant items.

Doors
In general doors shall be self-closing. Doors to the exterior shall be fitted as to prevent access of insects, rodents and birds.

Windows
Windows to the exterior shall be fly screened (max. 1.5 mm) if they can be opened.
Windowsills shall be avoided for reasons of hygiene and tidiness. If present, sills shall decline 45 degrees towards room.

**Ceilings**

Ceilings shall be tight, smooth and washable.

Open ceilings are generally preferred to suspended ceilings for pest control reasons.

Overhead structures, e.g., pipes and cables below ceiling shall be cleaned with regular intervals, e.g., 2 x year in order to prevent excessive accumulation of dust and dirt.

**Walk-in refrigerators**

Floors, walls and ceilings shall fulfil general requirements described above.

**Evaporators** shall be well maintained and kept clean.

**Doors** shall be durable, easy to clean and self-closing.

Foods and food containers in walk-in refrigerators must not be stored directly on floor but shall be stored on shelves or pallets as to permit effective stock rotation and control, as well as air circulation around food containers (min. 5 cm between food and wall and minimum distance between floor and lower shelf 30 cm).

**Shelves** shall be made from stainless steel.

**Pallets** in walk-in refrigerators for food storage shall normally be made from synthetic material. Wooden pallets are allowed only in refrigerators and freezers used for storage of bulk supplies in original, unopened supplier packaging.

Walk-in refrigerators shall be equipped with thermometers with gauge / display installed on outside of cooler to facilitate temperature monitoring.

Walk-in refrigerators shall be connected to a time /temperature recording system, incl. an alarm device for major temperature deviations.

**Walk-in freezers**

Floors, walls and ceilings shall fulfil general requirements described above.

Walk-in freezers shall preferably be fitted with a lock (anteroom) of sufficient size to allow passage of transport equipment in order to reduce penetration of warm air into freezer.

Foods, containers etc shall be stored on shelves or pallets and must not be stored directly on floor.

Foods must not be stored directly against the wall of freezer, and free space of minimum 10 cm) between goods and wall shall be maintained.

Walk-in freezers shall always be equipped with thermometers with gauge / display of thermometer installed outside freezer to facilitate temperature monitoring.

Walk-in refrigerators shall be connected to a time /temperature recording system, incl. an alarm device for major temperature deviations.

**Dry stores**

Floor surface shall be dust-proof concrete, tiles or similar hard, durable, impervious material. If present, drains shall be rat-proof.

Shelves of dry stores shall be made from metal or hard synthetics.

Food and food containers / packages must not be stored directly on floor but shall be stored on shelves or pallets.

Distance between lower shelf and floor to be 30 cm.
Possible windows for opening shall be fly screened.

**Hand wash facilities**

A hand wash station shall include:

- Basin
- Hot and cold-water supply, dispensed through mixing battery to hand warm
- Water release shall be non-hand / arm operation
- Liquid soap in dispenser, installed on wall
- Paper towels in dispenser, installed on wall
- Waste basket for used towels
- Hand sanitizer unit
- Sign "Wash your hands", mounted on wall.

**Number and location of hand wash facilities**

- Several stations at entrance(s) to food handling areas.
- 1 station in front of each toilet area.
- Minimum 1 station in each food handling area
- Recommended max. distance from a given working place to nearest station 7 meters.
- 1 station in locker rooms per 10 employees (using locker room at same time/ shift).
- Minimum one station in each operations area, dish wash and pot wash.
- Minimum 1 station between clean and unclean sections of dish wash.
- Hand washing stations must be used exclusively for washing hands.

**Equipment & utensils**

Materials for equipment and utensils must be durable, non-absorbent, non-toxic, non-corrosive and easy to clean.

Stainless steel is the preferred material for food contact surfaces. Wooden equipment and utensils shall be avoided to the widest possible extent.

Surface of equipment and utensils shall be smooth and easy to clean.

Equipment and utensils shall be so designed as to avoid hollow spaces, as such space represents traps/hiding places for dirt, wastewater and pest.

Equipment and utensils shall be well maintained. Corroded, broken and otherwise damaged equipment and utensils shall be repaired or discarded.

Equipment placed on floor shall be:

- sealed dust-proof to floor or
- raised minimum 30 cm above floor in order to provide access for cleaning or
- rest on wheels in order to facilitate removal for cleaning.

Equipment placed against / fixed to walls shall be sealed dust-proof to wall or be fixed with sufficient free space between wall and equipment to allow cleaning, pest inspection and eradication.

**Services**

**Lighting**

Food handling and storage areas must be provided with sufficient natural or artificial light (normal standard min. 500 lux 1 meter above floor).
All light and bulbs in areas where open food is handled must be suitably shielded to prevent possible contamination from glass in the event of breakage.

Ventilation / air conditioning
All areas must be provided with adequate ventilation and/or air conditioning to prevent undesirable odours and vapours.

Water Supply
The water supply to the unit must be of drinking water standard from a source approved by the relevant local authority.

Drainage
All wastewater and effluent must be discharged into a suitable sewage system or other means of disposal that secure effective removal of the wastewater.

A grease interceptor must be fitted to pre-clarify the effluent before entering the disposal system.

The drainage system must be constructed as to prevent access of pest. The percentage incline should be at least 1 in 100.

Waste handling
Waste containers/baskets shall be available in all areas according to need.
Waste containers for wet waste shall be equipped with plastic inserts.
Waste containers shall be cleaned after being emptied.
Waste containers shall be emptied with adequate frequency as to avoid overfilling.
Lids on waste containers are not recommended. If present, lids should be non-hand operated.
Transportation of waste containers to waste collection station shall be performed in a way which prevents contamination of surroundings.

Waste collection station
The waste collection station shall fulfil local legislative requirements to segregation from other areas and from surroundings.
The station shall fulfil local legislative requirements to protection against animals and insects, with special reference to dogs, birds and rodents.
Possible local legislative requirements to ambient temperature of enclosed waste collection stations shall be complied with.
Wet waste shall be stored in a refrigerated room until disposal. Temperature of refrigerated room until disposal. Temperature of refrigerated room shall be max 10°C.
Wet and dry waste collection station shall be cleaned after each disposal.

Responsible: Engineers Corporate: Management Quality Assurance
SOP 20 Delay Policy

Purpose
To outline the parameters used to make an assessment of food safety risk in the event of an aircraft departure delay.

Scope
Every notified delay has to be considered on a case-by-case basis.

Definitions
Delay is defined to be the failure of scheduled passenger flight to depart at the scheduled time. A delay that is caused by an inflight caterer could result in the caterer being issued a substantial monetary penalty by the airline.

Related documents
For each delay all data relating to times, food temperatures and decisions must be made documented.

Procedure
Delay policy Flow Diagram For meals loaded chilled

Responsible: Dispatch

Corporate:
6. Validation, Verification, Improvements-Standard Operation Procedures (SOP)

<table>
<thead>
<tr>
<th>SOP</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Validation of the Food Safety System</td>
</tr>
<tr>
<td>22</td>
<td>Internal audits</td>
</tr>
<tr>
<td>23</td>
<td>External audits</td>
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<td>24</td>
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</tr>
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<td>25</td>
<td>Complaint Management</td>
</tr>
<tr>
<td>26</td>
<td>Continuous Improvements, Information flow</td>
</tr>
</tbody>
</table>
SOP 21 Validation of the Food Safety System

Purpose
To ensure that the established food safety system effectively controls the determined hazards, and the system is implemented being in compliance with the written plan.

Scope
Food safety system to be applied in airline catering units.

Definitions
Validation: Obtaining evidence that the elements of the food safety system are effective.

Procedure
Validation of Food Safety System shall be followed-up by Food Safety working group in their periodical review meetings. Regular risk assessment shall be carried-out as validation tool.

Any changes in the process flow, introduction of new food products, application of new techniques etc. shall be assessed and necessary modifications in the system shall be done.

The Preparation of the Validation has to be realised by the Regional Hygiene Manager. Following information has to be collected prior the review meeting:
- Updated Unit data sheet
- Updated maintenance shedule
- Auditresults
- AFP reports
- Statistical data of internal and external complaints
- Risk assessment form

Related documents
Risk assessment form
SOP 22 Internal Audits

Purpose
Periodic internal audits are used to monitor the performance of food safety system implementation in the units. Effective internal audits are essential to determine the areas for improvement.

Scope
A structured internal audit with defined activities.

Procedure
Internal Auditors of DO & CO are designated after a special Auditor Training given by the Food Safety Working Group
Each year an exchange of experiences has to be organised by the Food Safety Working Group.
Each three years a monitoring audit has to be realised by the Food Safety Working Group with all Internal Auditors
Global audits are planned by the Division Hygiene Manager

Regional Internal Audits (RIA) realised by Regional Hygiene Manager (RHM) in units of the designated region of the RHM
Regional internal audits have to be planned and realised by the Regional Hygiene Manager regularly – minimum quarterly in each unit and in case of realised nonconformities or process changes
Regional Internal Audits have to be realised according to the Audit checklist.
Document controls and on-site inspection are the two essential activities in an audit.
Determined non-conformities and areas for improvement shall be discussed with the unit management at the end of audit.
Internal auditors shall submit an Action chart within 2 days to the unit management
The unit management has to be complete the Action chart within 5 days after receipt. This Action chart gives responsibilities and target dates for realising corrective actions and improvements.
Internal auditors shall submit an audit report within 7 days after the audit.
Unit shall take the corrective actions organis the non-conformities and inform the auditor.
Auditors shall verify the implementation of corrective actions

Global Internal Audits (GIA) realised by Hygiene Manager in other units than in the designated region of the RHM
Global Internal Audits have to be realised regularly – minimum twice a year in each unit.
Global Internal Audits have to be realised according to the Audit checklist.
Document controls and on-site inspection are the two essential activities in an audit. Determined non-conformities and areas for improvement shall be discussed with the unit management at the end of audit.

Internal auditors shall submit an Action chart within 2 days to the unit management. The unit management has to be complete the Action chart within 5 days after receipt. This Action chart gives responsibilities and target dates for realising corrective actions and improvements.

Internal auditors shall submit an audit report within 7 days after the audit.

Unit shall take the corrective actions organise the non-conformities and inform the auditor. Auditors shall verify the implementation of corrective actions.

Documents
- Global audit schedule
- Internal audit checklist
- Action chart
SOP 23 External Audits

Purpose
External audits are conducted by customers, by companies in charge of customers and authorities. External audits can be announced or not. Results of these audits effect the success of the unit and DO & CO globally.

Scope
This procedure applies the activities has to be made in case of external audits.

Procedure

Unannounced audits by authorities or customers
- Identity card of the visitor(s) has to be shown in case if the person(s) is unknown
- The unit manager or his deputy and the hygiene controller have to perform the audit with the visitor(s)
- All responsible staff have to be informed as quickly as possible
- All responsible staff have to verify in a cross check that all employees work according to this standard and the national law
- If samples are taken by the visitors, cross checks have to be done. Samples have to be stored frozen for at least three months
- All written reports and forms have to be sent (Fax or Scan) to the Regional Hygiene Manager (RHM). Originals have to be stored in the unit for 5 years
- Impressions and results of the audit have to be reported written and formless to the Regional Hygiene Manager
- Corrective actions in case of deviations have to be planned with the RHM
- Auditors shall verify the implementation of corrective actions

Announced audits by authorities or customers
- An announced audit has to be realised by the Regional Hygiene Manager (RHM)
- As soon as the audit is announced the Food Safety Working Group have to be informed
- The audit shall be prepared thoroughly by the RHM in cooperation with the unit manager, the hygiene controller and the responsible key account manager.
- All relevant information and specific requirements of the auditing agency need to be collected prior to the audit
- Corrective actions, based on the audit results, need to be planned.
- Information to all responsible staff of the intended external audit
- Realisation of all planned corrective actions
- Realisation of an internal audit if all requirements according to the standards are fulfilled
- If samples are taken by the visitors, cross checks have to be done. Sample have to be stored frozen for at least three months.
- All written reports and forms have to be sent (Fax or Scan) to the Food Safety Working Group and to the responsible Key Account Manager following a customer audit
• Results of the audit have to be reported in writing to the Food Safety Working Group and the responsible Key Account Manager following a customer audit
• Corrective actions in case of deviations have to be planned
• In case of customer audit, a reply to the customer which defines all planned and already realised corrective actions has to be prepared by the RHM and has to be sent as a draft to the Food Safety Working Group and the responsible Key account manager. Replies must be sent within two days.
• In case of an external audit realised by authorities a reply has to be prepared by the RHM, which has to be released by the unit manager.
• RHM shall verify the implementation of corrective actions

Documents
• Checklists related to the Airline standard
• Action chart
SOP 24 Analysis of Food, Water, Hands and Surfaces

Purpose
To verify the effectiveness of the control measures by use of microbiological tests.

Scope
Purchased food, in-house made processed and finished foods, water, ice, equipment and surface swab, hand swab.

Related document
Microbiological standard for ready-to eat foods.
Bacteriological standard for swab tests (hand, surface)
Laboratory test records

Procedure
Food Testing

- Foods for testing shall be, in general, high risk ready-to-eat foods. Microbiological analysis of raw high-risk foods is not considered cost effective unless special indications prevail.
- Microbiological analysis shall be carried-out for special raw products which are consumed raw or undercooked.
- Each unit shall have an appropriate sampling program for food, water, hand and swab testing.
- Methods used shall be standard methods for that particular country, or internationally accepted methods or equivalent validated method.
- Only approved external laboratories shall be used for microbiological and chemical tests.
- The microbiological guidelines for Ready-to-eat Food shown below shall be used to assess the results of food testing. However, if legally required standards are available for a country, then that country’s standards must apply.
- Microbiological testing plan and results of analysis shall be documented.
- A sampling plan should be drawn up by product type detailing the number and type of microbiological tests to be carried out.
- Microbiological results should be trended by the Hygiene Controller on a monthly basis to show the number of samples vs. the number and type of out of specification results.

Recommended minimum number of foods samples for microbiological controls is as follows.

<table>
<thead>
<tr>
<th>Total meal production/ day</th>
<th>&lt;1000</th>
<th>1.000-2.500</th>
<th>2.500-5.000</th>
<th>&gt;5.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum number of food samples for examination/month</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>
Microbiological Guidelines for Ready-to-eat Foods

See DO & CO Lab Standards

Where legally standards are available to far a country, then that country’s standard must apply.

Aerobic plate count at 30°C, 48 hours
As per guidelines for Drinking water Quality, WHO (1984)

Hand Swabs
Hand swabs must routinely be taken from all food handlers in order to ensure the effectiveness of hand washing. Records must be kept of results and corrective action must be carried out on any out of specification results. Hands must regularly be tested for E. coli and Coliforms. Any growth of E. coli or Coliforms indicates an out of specification. In the event of an out of specification, hands must be swabbed every week for four weeks to ensure a clear retest and training on hand hygiene given to the employee. Swaps for Staph. aureus can be done optionally.

Hand swab results should be trended on a monthly basis by the Hygiene Controller to show the number of swabs taken vs. the number and type of out of specification results.

Environmental Swabbing
E. coli and Coliforms swabbing must also be carried out to evaluate the effectiveness of the cleaning and disinfection procedures equipment surfaces, tables etc. If a swap is positive on E. coli and/or Coliforms immediate corrective action must be carried out, which must include re-cleaning of the item and re-swabbing to verify the cleaning.

In addition to testing above mentioned, environmental swabs should also test for yeasts and moulds. Yeasts are a general indicator for the effectiveness of cleaning execution and physically removing dirt.

Environmental swab results should be trended on a monthly basis to show the number of swabs taken vs. the number and type of out of specification results.

Water Sampling
To ensure the safety of water used for drinking, ice and cooking in DO & CO units, samples must be taken from all water points used for production, ice and/or drinking every six months. A sampling plan should be drawn up showing the relevant water points and when they are to be tested. The results must comply with the Microbiological Guidelines for Ready-to-Eat Foods, above, or to national guidelines were stricter.

If an out of specification result is received, the water must be resampled and where necessary removed from being used in drinking or cooking water.

Certificates of Analysis
Where suppliers are using a positive release system for their products, certificates of analysis should be sent for each batch to the Unit Hygiene Controller. This may assist in the reduction of microbiological sampling carried out by DO & CO units. Where prepared meals are bought in i.e., Kosher Meals, the supplier’s microbiological results should be
obtained to ensure compliance, the pasteurisation results of liquid egg should also be obtained for each batch.

**Lab Audits / Accreditation**

Only accredited laboratories can be used for the analysis of food, water, hand swabs and environmental swabs. It is the responsibility of the Regional Hygiene Manager to ensure that the contract laboratory is accredited. Accreditation should be confirmed through a laboratory audit to view official accreditation documentation. The laboratory should also provide evidence of their proficiency testing for all laboratory staff, and annual results viewed.

**Retained Samples**

Samples of all high-risk items should be taken from each production day and kept frozen for two weeks. In the event of an AFP incident these samples can be sent for microbiological analysis to establish the presence or absence of food poisoning bacteria. Should an internal out of specification *Salmonella, E.coli* or *Coliforms* results be received, the retained sample can be tested.

**Test frequency**

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>Monthly</td>
</tr>
<tr>
<td>Hand swabs</td>
<td>According to internal procedure</td>
</tr>
<tr>
<td>Environmental swabs</td>
<td>According to internal procedure</td>
</tr>
<tr>
<td>Water, Ice cubes</td>
<td>Twice a year</td>
</tr>
</tbody>
</table>
SOP 25 Complaint Management

Purpose
Structure for collecting, analysing and concentration data of internal and external complaints with the target to obtaining relevant information for improving the food safety system
Setting responsibilities and target times for customer and internal information

Scope
All complaints obtained by the customer, the consumer, authorities and DO & CO staff related to food safety (complaints concerning chemical, physical or biological hazards)

Procedure
Customer contact of each airline obtains complaint out of IT System or similar information flow. Complaint is added to Complaint Management Tool. Relevant Departments as well as QA and Unit Management are informed by automatic generated emails. Complaint has to be answered by defined reaction time including follow up. Food safety related complaints shall be documented in additional file.

The complaint has to be answered by the Customer Contact to the customer.

Complaint management
Trending, summaries or further statistics can be obtained by the Complaint Management Tool.

Food Safety Contact
Food Safety related Complaints has to be sent to the Regional Hygiene Management (RHM).
E-mail addresses are:

<table>
<thead>
<tr>
<th>Country</th>
<th>E-mail adress</th>
<th>Country</th>
<th>E-mail adress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td><a href="mailto:foodsafetyAT@doco.com">foodsafetyAT@doco.com</a></td>
<td>Turkey</td>
<td><a href="mailto:foodsafetyTR@doco.com">foodsafetyTR@doco.com</a></td>
</tr>
<tr>
<td>Germany</td>
<td><a href="mailto:foodsafetyD@doco.com">foodsafetyD@doco.com</a></td>
<td>United Kingdom</td>
<td><a href="mailto:foodsafetyUK@doco.com">foodsafetyUK@doco.com</a></td>
</tr>
<tr>
<td>Italy</td>
<td><a href="mailto:foodsafetyIT@doco.com">foodsafetyIT@doco.com</a></td>
<td>United States</td>
<td><a href="mailto:foodsafetyUS@doco.com">foodsafetyUS@doco.com</a></td>
</tr>
<tr>
<td>Malta</td>
<td><a href="mailto:foodsafetyMT@doco.com">foodsafetyMT@doco.com</a></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

General Food Safety Contact is foodsafety@doco.com

Relevant Documents
Claim report

SOP 26 Continuous Improvements/Information Flow

Purpose
To improve the food safety system consistently and continuously through:
1. Evaluation all data relevant for food safety
2. Setting measureable targets for food safety
3. Reviewing the food safety system
4. Continuous training
5. Preventive measures
6. Corrective actions
7. Information flow

**Scope**

Continuous improvement of the food safety system

**Procedure**

1. **Evaluation of relevant data for food safety**
   - Internal audit scores
   - Customer audit scores
   - Customer claims
   - Internal claims according action chart
   - AFP claims
   - Microbiological test results

   This data is to be collected by the Division Manager and evaluated by the Food Safety Working Group

2. **Setting measurable targets for food safety**

   Food safety working group shall set measurable targets for the following criteria
   - Internal audit scores
   - Customer audit scores
   - Number of customer claims
   - Number of AFP claims
   - Microbiological test results

   Each unit performance shall be assessed against the set targets.

3. **Reviewing the food safety system**

   All relevant data for food safety (as listed above) has to be evaluated for all units. This is done by the Division Manager. Deviations are to be discussed and measurements for improvements induced.

4. **Continuous training**

   Each unit shall implement staff training based on the training survey. Effectiveness of the training shall be consistently followed-up. Additional to the staff training, internal trainings for all DO & CO Hygiene managers should be carried out on a regular basis.
5. **Preventive measures**

Based on evaluation of relevant data, preventive actions for improving the system should be planned, realised, and effectivity monitored. These preventive actions are planned on each level of the food safety system.

6. **Corrective actions**

For all deviations on CCP’s and SOP’s of this standard corrective actions have to be planned and realised as quickly as possible. The effectivity of the actions has to be evaluated.

7. **Information Flow**

For implementation and maintenance of our Food Safety System, the information flow is of major important. The following systems are essential for keeping all responsible people, Partners and staff up to date:

**Newsletter**

Relevant information concerning DO & CO Food Safety is sent by E-Mails. The Food Safety Working Group is collecting relevant information about new legal requirements, specific Airline requirements and further information.

This information is addressed to all Hygiene managers, Unit management and Hygiene controllers.

**Meetings**

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Participants</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene meetings</td>
<td>Regional Hygiene Manager, Hygiene Controller of a unit, Unit Manager of a unit, Head of Departments (if required) of a unit</td>
<td>Monthly</td>
</tr>
<tr>
<td>Experience Exchange Hygiene manager and Auditor</td>
<td>All Hygiene Managers</td>
<td>2 times/year</td>
</tr>
<tr>
<td>Food Safety Working Group</td>
<td>Food Safety Working Group</td>
<td>4 times/year</td>
</tr>
</tbody>
</table>

**Reports**

<table>
<thead>
<tr>
<th>Report</th>
<th>Who</th>
<th>Whom</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hygiene Controller</td>
<td>Hygiene Controller</td>
<td>Regional Hygiene</td>
<td>At least weekly</td>
</tr>
</tbody>
</table>
### Relevant Documents

- Internal audit report
- AFP report
- Action chart
- Food analysis report
- Meeting report
- Food Safety Review
7. Additional Procedures (AP)

AP1  Food Handling on Board
AP2  Food for Return and Long-haul Flights
AP3  Food Safety Incident Handling
AP 1 Food Handling on Board

Purpose
To ensure that when food on board is handled by DO & CO staff, all the relevant hazards are to be adequately controlled.

Scope
Food handling activities done by DO & CO staff in the aircraft.

Procedure
Food preparation on board
- Hands shall be washed before food preparation begins and at any time when hands are contaminated
- Utensils and contact surfaces shall be kept clean. A suitable detergent shall be used to clean the surfaces
- Presence of foreign objects (fly, glass, metal) shall be avoided during cooking on board
- When cooking raw meat, poultry and sea foods, the cooking temperatures stated in CCP 3 shall be fully respected. A thermometer probe shall be used to monitor temperature
- Reheating on board
- Inside of oven shall be clean
- Time temperature shall be well set for the oven to ensure proper re-heating service on board
- Hands shall be clean. Nails shall be clean and trimmed
- Uniforms shall be clean
AP 2 Food for Return and Long-haul Flights

Procedure
To determine a proper time-temperature controls for the foods uplifted for return and long-haul flights.

Scope
Foods to be loaded as return catering and foods for long-haul flights.

Procedure
Whenever hot meals are loaded for return or as second meal services they must be chilled to -2°C (28°F) before being loaded on to the aircraft. Hot meals can be loaded as frozen only if the customer approves this procedure in writing.

For chilled foods, dry ice in a sufficient amount (2 kg for a double trolley and 1 kg for a half trolley) shall be used in each trolley to ensure that meal temperature does not exceed 10°C (50°F) during the flight.
AP 3 Food Safety Incident Handling

Purpose

To handle the serious customer claims of food safety nature such as, alleged food poisoning and stone, glass and metal pieces in meals.

Scope

Serious food safety related claims reported by airline customers.

Definitions

AFP (Alleged Food Poisoning)

Related documents

AFP checklist

Procedure

Alleged food poisoning and foreign object claims from customers are normally received by the sales department.
Sales department shall inform Regional QA
Regional QA shall inform Divisional QA
Regional QA shall initiate investigation and share the collected information with Divisional QA.
If the claim is related to food poisoning. Regional QA shall complete AFP checklist and send it to Divisional QA.
Regional QA shall complete the report and submit to the person responsible to reply to the airline.
Regional QA shall send the report to all Food Safety working group members.
8. ATTACHMENTS

I Definitions and Abbreviations
II DO & CO Risk Assessment
III CCP Forms
IV SOP Forms
V Shelf life of certain food items
## Definitions and Abbreviations

<table>
<thead>
<tr>
<th>Issue</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abs</td>
<td>Absent</td>
</tr>
<tr>
<td>AFP</td>
<td>Alleged (non-confirmed) food poisoning</td>
</tr>
<tr>
<td>Allergen, food borne</td>
<td>A chemical substance in food capable of releasing an allergic reaction in the consumer</td>
</tr>
<tr>
<td>Allergens based on Reg. (EU) 2003/89</td>
<td>Allergens and products thereof: Cereals containing Gluten (Wheat, rye, barley oats, spelt, kamut or their hybrids strains) Crustaceans Eggs Fish Peanuts Soybean Milk (including Lactose) Nuts i.e. Almond, Hazelnut, Walnut, Cashew, Pecan nut, Brazil nut, Pistachio nut, Macadamia Nut, Queensland nut Celery Mustard Sesame seeds Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/kg expressed in SO²</td>
</tr>
<tr>
<td>“Allergen-like” intolerance agents</td>
<td>Gluten, lactose</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>Temperature of the surrounding environment, normally synonymous with: Temperature of a room (typically a food handling area) of a catering unit or Temperature outside the unit.</td>
</tr>
<tr>
<td>Anaerobic Bacteria</td>
<td>Bacteria which cannot grow in the presence of oxygen but will survive in the absence of oxygen.</td>
</tr>
<tr>
<td>Analytical Method</td>
<td>A detailed description of the procedures to be followed in performing tests for conformity with specification.</td>
</tr>
<tr>
<td>Approved</td>
<td>Acceptable to the regulatory authority based on a determined conformity with principles, practices, and generally recognised standards that protects public health.</td>
</tr>
<tr>
<td>Approved Supplier</td>
<td>A supplier who by an approval audit has demonstrated the ability to consistently meet purchasing specifications, including food safety requirements and service delivery requirements.</td>
</tr>
<tr>
<td>Assembly</td>
<td>The placing of prepared food into airline dishes. Also, may be referred to as “meal assembly”, “portioning”, “hot pack”, plating.</td>
</tr>
<tr>
<td><strong>Audit (Food Safety Audit, Quality Audit)</strong></td>
<td>A systematic and independent examination to determine Quality of control system Compliance with set critical limits and procedures</td>
</tr>
<tr>
<td><strong>Auditor</strong></td>
<td>Person performing an audit</td>
</tr>
<tr>
<td><strong>a_w (water activity)</strong></td>
<td>A measure of the free moisture in a food, is the quotient of the water vapour pressure of the substance divided by the vapour pressure of pure water at the same temperature. See also Water Activity</td>
</tr>
<tr>
<td><strong>Bacteria</strong></td>
<td>Single cell living organisms. When present in sufficient numbers in food, some may cause food spoilage while others (food poisoning bacteria) may cause disease in the consumer.</td>
</tr>
<tr>
<td><strong>Batch – General Definition</strong></td>
<td>A batch shall consist of units of product of a single type, grade, class, size, and/or composition, manufactured, stored, handled or transported under the same conditions, and at essentially the same time.</td>
</tr>
<tr>
<td><strong>Best before date</strong></td>
<td>Date mark required on longer life foods that are not subject to microbial spoilage, e.g., frozen foods. Relates to quality rather than safety. See also: Use by date</td>
</tr>
<tr>
<td><strong>Blast Chiller</strong></td>
<td>A cooling unit used for fast chilling of cooked food after cooking has been completed and before subsequent storage or handling. The cooling medium is usually air, liquid nitrogen or liquid carbon dioxide.</td>
</tr>
<tr>
<td><strong>Blast Freezer</strong></td>
<td>A freezer unit used for fast freezing of cooked or cook-chilled food before subsequent freeze storage. The freezing medium is usually air, liquid nitrogen or liquid carbon dioxide.</td>
</tr>
<tr>
<td><strong>Bulk food</strong></td>
<td>Within airline catering the term normally covers prepared, unportioned food.</td>
</tr>
<tr>
<td><strong>BSE</strong></td>
<td>Bovine Spongiform Encephalopathy.</td>
</tr>
<tr>
<td><strong>°C</strong></td>
<td>Centigrade</td>
</tr>
<tr>
<td><strong>Calibration</strong></td>
<td>Checks to ensure that critical items such as scales and thermometers are accurate and precise.</td>
</tr>
<tr>
<td><strong>Carrier, healthy</strong></td>
<td>A person who harbours and may pass on harmful bacteria without showing signs of illness themselves. (Also known as an asymptomatic excreter)</td>
</tr>
<tr>
<td><strong>CCP</strong></td>
<td>A CCP (Critical Control Point) is a step, location or procedure at which control can be applied and which is essential to prevent, eliminate or reduce a food safety hazard to an acceptable level</td>
</tr>
<tr>
<td><strong>CCP Specification</strong></td>
<td>A description of unit control activity of a CCP.</td>
</tr>
<tr>
<td><strong>Centre temperature</strong></td>
<td>Refers normally to temperature of food centre. Syn: Core temperature</td>
</tr>
<tr>
<td><strong>Certificate of Analysis (COA)</strong></td>
<td>Signed document showing results of analysis carried out on a product.</td>
</tr>
<tr>
<td><strong>Chilled Foods</strong></td>
<td>Perishable foods which are kept under refrigeration temperature to extend the time during which they remain wholesome.</td>
</tr>
<tr>
<td><strong>Chilled food handling areas</strong></td>
<td>Preparation areas for raw foods, preparation areas for ready-to-eat foods, pastry area, trayset areas, hot meal packing area.</td>
</tr>
<tr>
<td><strong>Clean areas</strong></td>
<td>Areas for storage, handling and transport of ready-to-eat foods and clean equipment, e.g., refrigerators for storage of ready-to-eat foods, ready-to-eat food preparation areas, clean sections of pot wash, dish wash.</td>
</tr>
<tr>
<td><strong>Clean processes</strong></td>
<td>Storage, handling and transport of ready-to-eat foods and clean equipment.</td>
</tr>
<tr>
<td><strong>Cleaning</strong></td>
<td>Removal of food residues and dirt from surfaces, equipment and utensils.</td>
</tr>
<tr>
<td><strong>Cold storage</strong></td>
<td>Refrigeration and freezing.</td>
</tr>
<tr>
<td><strong>Cold stores</strong></td>
<td>Refrigeration and freezing rooms, cabinets and displays for storage of perishable foods.</td>
</tr>
<tr>
<td><strong>Codex Alimentarius</strong></td>
<td>The Codex Alimentarius Commission - a body set up by WHO to co-ordinate food standards internationally.</td>
</tr>
<tr>
<td><strong>Colour Coding</strong></td>
<td>Refers to the practice of affixing-coloured stickers coded to the day of the week a product is produced or otherwise handled on all freshly prepared or purchased items. Colour coding may be done in accord with industry wide colour codes for the seven days of the week.</td>
</tr>
<tr>
<td><strong>Comminuted</strong></td>
<td>Reduced to small fragments such as ground meat/minced meat.</td>
</tr>
<tr>
<td><strong>Conformity</strong></td>
<td>In compliance with</td>
</tr>
<tr>
<td><strong>Compliance</strong></td>
<td>Measures and control results which satisfy legal and / or company quality system requirements.</td>
</tr>
<tr>
<td><strong>Contaminant</strong></td>
<td>Any microbiological or chemical agent, foreign matter, or other substance not intentionally added to food, which may compromise food safety or suitability.</td>
</tr>
<tr>
<td><strong>Control, Food Safety</strong></td>
<td>Monitoring + corrective action.</td>
</tr>
<tr>
<td><strong>Controlled atmosphere packaging</strong></td>
<td>A packaging method in which the composition of the atmosphere in the pack is different from air. Continuous control of that atmosphere may be maintained, such as by using oxygen scavengers or a combination of total replacement of oxygen, anaerobic food, and impermeable packaging material. See also MAP.</td>
</tr>
<tr>
<td><strong>Convenience food</strong></td>
<td>Ready-to-eat food.</td>
</tr>
<tr>
<td><strong>Core temperature</strong></td>
<td>Centre temperature of food.</td>
</tr>
<tr>
<td><strong>Corrective action, immediate</strong></td>
<td>The immediate action on food that does not comply with set critical limit of a CCP.</td>
</tr>
<tr>
<td><strong>Corrective action, preventive</strong></td>
<td>Periodical actions aimed at reducing non-compliance</td>
</tr>
<tr>
<td><strong>Criterion</strong></td>
<td>A requirement on which a judgement or decision can be based.</td>
</tr>
<tr>
<td><strong>Critical Control Point</strong></td>
<td>A point, procedure, operation or stage in the food chain, at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.</td>
</tr>
<tr>
<td><strong>Critical Ingredient</strong></td>
<td>Ingredient added to food which may cause contamination of product, high risk.</td>
</tr>
<tr>
<td><strong>Critical item</strong></td>
<td>A provision of this Code, which, if in non-compliance, is more likely than other violations to contribute to food contamination, illness, or</td>
</tr>
<tr>
<td><strong>Critical limit</strong></td>
<td>Specific limits of physical (e.g. time, temperature...), chemical (e.g. pH) or microbiological CCP characteristics. Synonym: Criterion</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Cross contamination</strong></td>
<td>Spreading of microorganisms from a primary source (raw food, food handler) to a food item, either by direct contact between source and food or indirectly via surfaces, equipment, hands etc.</td>
</tr>
<tr>
<td><strong>Crustaceans</strong></td>
<td>See shellfish, crustacean</td>
</tr>
<tr>
<td><strong>Danger Zone</strong></td>
<td>The temperature range between 41°F and 140°F (5°C to 60°C). Many foods poisoning as well as many food spoilage bacteria will multiply in food held within this range.</td>
</tr>
<tr>
<td><strong>Defective Product</strong></td>
<td>Product that does not fully meet the product specification as defined by the client. This invariably also includes product that does not fully meet internal product/process specification.</td>
</tr>
<tr>
<td><strong>Detergent</strong></td>
<td>Chemical facilitating removal of grease and dirt from surfaces.</td>
</tr>
<tr>
<td><strong>Deviation</strong></td>
<td>Failure to meet a critical limit.</td>
</tr>
<tr>
<td><strong>Disinfectant, chemical</strong></td>
<td>A group of approved chemicals used to reduce microbial contamination to safe levels on (previously cleaned) surfaces. Syn.: Sanitiser (U.S.A.)</td>
</tr>
<tr>
<td><strong>Disinfection</strong></td>
<td>Reduction of microbial levels on surfaces to safe levels, normally performed by use of heat or chemical disinfectants. Syn.: Sanitizing (U.S.A.)</td>
</tr>
<tr>
<td><strong>Document Control</strong></td>
<td>The controls necessary to ensure only current documents are used.</td>
</tr>
<tr>
<td><strong>Documentation</strong></td>
<td>All the written production procedures, instructions and records, quality-control procedures, and recorded test results involved in the manufacture of a product.</td>
</tr>
<tr>
<td><strong>Dry areas</strong></td>
<td>Areas the cleaning of which is performed by use of small amounts of water or no water, e.g., dry stores, corridors, tray set / Make &amp; Pack.</td>
</tr>
<tr>
<td><strong>Dry food</strong></td>
<td>Food that has a low water activity (aw), being less than the minimum growth water activity of the micro-organisms of significance for the particular food.</td>
</tr>
<tr>
<td><strong>Dry Ice</strong></td>
<td>Carbon dioxide (CO2) solidified by great pressure or as a result of rapid evaporation of liquefied CO2. Used as a refrigerant.</td>
</tr>
<tr>
<td><strong>Dry storage</strong></td>
<td>Storage of shelf-stable foods at ambient temperatures.</td>
</tr>
<tr>
<td><strong>E.coli 0157:H7</strong></td>
<td>An E. coli strain regularly isolated from raw beef and capable of causing severe food poisoning.</td>
</tr>
<tr>
<td><strong>EEC</strong></td>
<td>See EU</td>
</tr>
<tr>
<td><strong>EU</strong></td>
<td>European Union</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>Fahrenheit</td>
</tr>
<tr>
<td><strong>FDA</strong></td>
<td>Food and Drug Administration (USA)</td>
</tr>
<tr>
<td><strong>Final Holding</strong></td>
<td>The last storage period for food products that have been prepared and packaged or packed into boarding equipment for later transport to an aircraft. Generally, the final holding area for food products is a holding refrigerator where products are thoroughly...</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Flight Kitchen</td>
<td>A production kitchen facility operated by an inflight caterer for the purpose of preparing food products for boarding onto passenger aircraft.</td>
</tr>
<tr>
<td>Flow Diagram</td>
<td>A systematic representation of the sequence of steps or operations used in the production of manufacture of a particular product.</td>
</tr>
<tr>
<td>FMT</td>
<td>Five minutes training</td>
</tr>
<tr>
<td>Food contamination</td>
<td>The introduction to/occurrence in food of food poisoning microorganisms, spoilage microorganisms, chemicals, foreign bodies or other unwanted matter that may compromise food safety or wholesomeness.</td>
</tr>
<tr>
<td>Food contamination, chemical</td>
<td>Contamination of food with unwanted chemicals.</td>
</tr>
<tr>
<td>Food contamination, microbial</td>
<td>Contamination of food with food poisoning microorganisms or spoilage microorganisms.</td>
</tr>
<tr>
<td>Food contamination, physical</td>
<td>Contamination of food with unwanted foreign bodies, e.g., stones, metal objects, string, flying and crawling insects etc.</td>
</tr>
<tr>
<td>Food flow</td>
<td>Description of the sequence of processes a given food will pass on its way from the manufacturer to the consumer. In an airline catering context, the food flow includes processes and steps before, during and after the flight catering unit.</td>
</tr>
<tr>
<td>Food Handler</td>
<td>Any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements.</td>
</tr>
<tr>
<td>Food handler, approved</td>
<td>A food handler having undergone the relevant DO&amp;CO food safety training.</td>
</tr>
<tr>
<td>Food handling areas</td>
<td>Preparation areas for raw foods, preparation areas for ready-to-eat foods incl. hot kitchen, cold kitchen, pastry area, bakery, tray set areas, hot meal packing area.</td>
</tr>
<tr>
<td>Food hygiene</td>
<td>All conditions and measures necessary to ensure the safety and suitability of food for human consumption at all stages of the food chain.</td>
</tr>
<tr>
<td>Food poisoning bacteria</td>
<td>A small group of bacteria that may cause disease when present in food in sufficient numbers.</td>
</tr>
<tr>
<td>Food poisoning, chemical</td>
<td>Food borne intoxication caused by harmful chemicals in foods.</td>
</tr>
<tr>
<td>Food poisoning, microbial</td>
<td>Food borne infections or intoxications, caused by food poisoning bacteria or viruses.</td>
</tr>
<tr>
<td>Food safety</td>
<td>Assurance that the food will not cause harm to the consumer when it is prepared and/or eaten according to its intended use.</td>
</tr>
<tr>
<td>Food Safety Programme (FSP)</td>
<td>A documented (and HACCP-based) system that clearly outlines how things are done in food premises to achieve food safety.</td>
</tr>
<tr>
<td>Food Spoilage</td>
<td>The deterioration of food including that caused by the growth of undesirable micro-organisms, which may result in fermentation, mould growth and development of undesirable odours and flavours.</td>
</tr>
<tr>
<td>Foodborne disease</td>
<td>Disease, usually gastrointestinal, caused by organisms or their toxins carried in ingested food. Also commonly known as “food poisoning”.</td>
</tr>
<tr>
<td>Foodborne disease outbreak</td>
<td>The occurrence of two or more cases of a similar illness resulting from the ingestion of a common food.</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Food-Borne Illness</td>
<td>Any illness, the cause of which - whether bacteria, viruses, toxins, or other contaminants - is passed to victims through the food they eat.</td>
</tr>
<tr>
<td>Food-contact surface</td>
<td>A surface of equipment or a utensil with which food comes into contact.</td>
</tr>
<tr>
<td>Foreign Matter</td>
<td>Anything physical that should not be in the product.</td>
</tr>
<tr>
<td>Food stores</td>
<td>Dry stores + Cold stores</td>
</tr>
<tr>
<td>Foreign body</td>
<td>See food contamination, physical</td>
</tr>
<tr>
<td>Freezer</td>
<td>A cold store (walk-in freezer, cabinet, and chest freezer) operated at a temperature that prolongs shelf life of perishable foods with months or years.</td>
</tr>
<tr>
<td>Gastro-enteritis</td>
<td>Illness of the digestive system, with typical symptoms diarrhoea, abdominal pain, vomiting and sometimes fever.</td>
</tr>
<tr>
<td>General hygiene</td>
<td>The sum of hygiene issues not influencing directly on the safety of food.</td>
</tr>
<tr>
<td>GIA</td>
<td>Globale Internal Audit (Audit realised by DO&amp;CO Hygienemanager who is not responsible for the audited unit).</td>
</tr>
<tr>
<td>Good Manufacturing Practice (GMP)</td>
<td>That combination of manufacturing and management procedures aimed at ensuring that products are consistently manufactured to meet specifications and customer expectations.</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Points. A management tool providing a structured approach to identification and control of food safety hazards.</td>
</tr>
<tr>
<td>HACCP, steps</td>
<td>Main steps include: Identification of hazards, CCP’s, SOPs, critical limits, control, verification, review.</td>
</tr>
<tr>
<td>Hazard Analysis</td>
<td>The process of collecting and evaluating information on hazards and conditions leading to their presence to decide which are significant for food safety reasons and therefore should be addressed in the HACCP plan.</td>
</tr>
<tr>
<td>Hazard, chemical</td>
<td>The unacceptable contamination of food with potentially harmful chemicals.</td>
</tr>
<tr>
<td>Hazard Identification</td>
<td>The identification of known or potential health effects associated with a particular agent.</td>
</tr>
</tbody>
</table>
| Hazard, microbial         | I. Microbial pathogen related to a given food.  
                           | II. The unacceptable survival, contamination (spread) or growth of pathogens in food. |
| Hazard, physical          | The unacceptable contamination of food with potentially harmful (or unaesthetic) foreign bodies. |
| HC                        | Hygiene Controller |
| High-risk ready-to-eat foods | Are ready to eat foods which support rapid growth of pathogens by exposure to unsafe temperatures.  
<pre><code>                       | Main groups of ready-to-eat high-risk foods include: Cooked poultry, eggs, meat, fish, shellfish, rice, pasta, sauces, |
</code></pre>
<table>
<thead>
<tr>
<th><strong>High-risk raw foods for in-house cook-chill before delivery and service.</strong></th>
<th><strong>Poultry, eggs, meat, fish, shellfish, stews, sauces, soups, pasta, rice</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High susceptible population</strong></td>
<td><strong>A group of persons who are more likely than other populations to experience food-borne disease because they have low immune systems or older adults and in a facility that provides health care or assisted living services, such as a hospital or nursing home; or pre-school age children in a facility that provides custodial care, such as a day care centre.</strong></td>
</tr>
<tr>
<td><strong>Incubation period (of food poisoning).</strong></td>
<td><strong>The time interval from eating an unsafe food until onset of symptoms of food poisoning.</strong></td>
</tr>
<tr>
<td><strong>Inflight Food Safety Auditor</strong></td>
<td><strong>A representative of an airline or an inflight catering firm that goes to a product supplier’s facility for the purpose of conducting a food safety audit on the products, practices and processes used by the airline or the caterer.</strong></td>
</tr>
<tr>
<td><strong>Ingredients</strong></td>
<td><strong>All materials, including raw materials, air addition, water, additives, and compounded foods, which are included in the formulation of the product.</strong></td>
</tr>
<tr>
<td><strong>Intrinsic</strong></td>
<td><strong>Already present.</strong></td>
</tr>
<tr>
<td><strong>Laboratory, approved</strong></td>
<td><strong>An internal or external food analysis laboratory approved by the DO&amp;CO approval procedure.</strong></td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td><strong>Any tag, brand, mark or statement in writing or any representation or design or descriptive matter on or attached to or used in connection with or accompanying food or package.</strong></td>
</tr>
<tr>
<td><strong>Long Haul Flight</strong></td>
<td><strong>More than 4 hours with the need of a second service</strong></td>
</tr>
<tr>
<td><strong>Low –Risk Foods</strong></td>
<td><strong>Foods which do not readily support bacterial growth, and which do not commonly contain microbial pathogens in harmful amounts.</strong></td>
</tr>
<tr>
<td><strong>Lux</strong></td>
<td><strong>A measure of light levels</strong></td>
</tr>
<tr>
<td><strong>Menu Cycle (Cycle Menu)</strong></td>
<td><strong>A period of time for which a particular set of menus is planned (or the menu set planned for that period). At the end of the predetermined time period, or cycle, the menu set is repeated. This cycling of menus continues until a new menu set is prepared; then it starts anew.</strong></td>
</tr>
<tr>
<td><strong>Menu Presentation</strong></td>
<td><strong>The preparation of a sample meal or a spare tray for a particular menu on an airline’s menu cycle. This spare tray is then presented to the other employees and management for study and evaluation. Errors in the tray set-up noted during the presentation period are noted for correction through employee training. Also refers to major presentations could be for a system menu</strong></td>
</tr>
</tbody>
</table>
project or at a particular kitchen, usually for international service, where an airline may rely on locally developed and prepared menus.

<table>
<thead>
<tr>
<th>Microbial Barriers</th>
<th>Actions or conditions, such as lowering the pH or the water activity level of products, regulating the cooking or storage temperatures used, that will prevent further microbial development in the particular food product.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganisms</td>
<td>Very small living organisms visible only under the microscope, e.g., bacteria, yeast, mould, virus</td>
</tr>
<tr>
<td>Modified atmosphere packaging (MAP)</td>
<td>The atmosphere of a package of food is modified so that its composition is different from air, but the atmosphere may change over time due to the permeability of the packaging material or the respiration of the food. Modified atmosphere packaging includes reduction in the proportion of oxygen, total replacement of oxygen, or an increase in the proportion of other gases such as carbon dioxide or nitrogen. See also controlled atmosphere packaging.</td>
</tr>
<tr>
<td>Molluscs</td>
<td>See shellfish, molluscs</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Checking of Criteria</td>
</tr>
<tr>
<td>Outer packaging</td>
<td>The final packaging layer that will protect the wrapping of, or the direct contact of, any food, equipment, packaging, thing, from the introduction of contaminants.</td>
</tr>
<tr>
<td>Outsourcing</td>
<td>Buying goods or services from an external company.</td>
</tr>
<tr>
<td>Package</td>
<td>The wrapping or container used to encase a food but does not include - a) containers used for the purpose of transporting bulk foods; b) pallet over wraps; c) crates and packages which do not obscure labels on the food; or d) transportation vehicles.</td>
</tr>
<tr>
<td>Parts per million</td>
<td>(% is parts per 100). ppm is parts per 1.000.000. Thus 1% is 10.000 ppm.</td>
</tr>
<tr>
<td>Pasteurisation</td>
<td>A heat process that kills most pathogenic bacteria in food and slows down the growth of others. Food is heated to a specific temperature for a specified length of time.</td>
</tr>
<tr>
<td>Pathogen</td>
<td>A microorganism capable of causing illness.</td>
</tr>
<tr>
<td>PHF</td>
<td>Potentially hazardous foods.</td>
</tr>
<tr>
<td>Pest</td>
<td>Animals which may contaminate foods, e.g., flying and crawling insects, rodents, birds.</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>Procedures, including Good Manufacturing Practices, that address operational conditions providing the foundation for the HACCP system.</td>
</tr>
<tr>
<td>Preservatives</td>
<td>Methods of destroying, delaying or inactivating the enzymes and micro-organisms responsible for food spoilage.</td>
</tr>
<tr>
<td>Process (verb)</td>
<td>Includes kill, slaughter, dress, cut, extract, manufacture, pack, preserve, transport and store.</td>
</tr>
<tr>
<td>Process Specification</td>
<td>A document or documents identifying the raw materials, with their quantities, to be used in the manufacture of a product. Includes a description of the manufacturing operations and procedures including identification of the plant and facilities to be used, processing conditions, in-process controls, packaging materials to be used and instructions for the removal of Finished Product to storage.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Protective Clothing</td>
<td>Clothing provided for wear in the workplace, ie. overalls, coats, hat, gloves, shoes, boots etc. to protect food from risk of contamination.</td>
</tr>
<tr>
<td>pH value</td>
<td>Degree of acidity on a scale from 0 to 14 with 7 as the neutral point. Interval 0-7 is acid, while 7-14 is alkaline.</td>
</tr>
<tr>
<td>Potentially hazardous foods</td>
<td>Foods which rapidly decrease within a short time of storage, and which support rapid and progressive growth of food poisoning bacteria as well as spoilage bacteria. Potentially hazardous foods normally have a pH above 4.5 and a water activity above 0.9.</td>
</tr>
<tr>
<td>PPM</td>
<td>Parts per million</td>
</tr>
<tr>
<td>Preparation</td>
<td>Joint expression for food handling activities such as slicing, cutting, mincing, portioning, deboning, trimming, glazing, decorating, piping etc.</td>
</tr>
<tr>
<td>Pre-preparation</td>
<td>Handling activities on raw foods before heat treatment. Syn.: Pre-cook preparation</td>
</tr>
<tr>
<td>Probe, - thermometer</td>
<td>Probe, primarily for checking food core temperature. “Between-pack probe.”</td>
</tr>
<tr>
<td>Processed</td>
<td>Ready to eat.</td>
</tr>
<tr>
<td>Produce</td>
<td>American term for raw (unwashed) vegetables and fruit.</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>Activities undertaken by a firm or organisation to control the quality level of a product or service provided or received. Quality assurance activities are designed to ensure that the performance is in accord with product or service quality standards established at the beginning of the relationship.</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Control</td>
</tr>
<tr>
<td>Quarantine</td>
<td>The status of any materials or product set aside while awaiting a decision on its suitability for its intended use or sale.</td>
</tr>
<tr>
<td>Rating score</td>
<td>Result on a checklist of an audit, verification or inspection.</td>
</tr>
<tr>
<td>Raw food</td>
<td>Food which normally needs to be cooked prior service, e.g., raw meat, raw poultry, raw fish, raw shellfish, some raw unwashed vegetables.</td>
</tr>
<tr>
<td>Raw high-risk foods</td>
<td>Are those foods which regularly harbour microbiological pathogens, which must be destroyed by cooking or wash/disinfection (e.g., organically grown vegetables for raw service). Raw high-risk foods include: Raw foods of animal origin (poultry, raw eggs, meats, fish, shellfish) for cooking. Raw, organically grown vegetables for wash and disinfection.</td>
</tr>
<tr>
<td>Raw Material</td>
<td>Any material, ingredient, starting material, semi-prepared or</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>intermediate material, packaging material, etc., used by the manufacturer for the production of a Finished Product.</td>
<td>Ready-to-eat food The expression covers all foods that do not need any heat treatment or cleaning (vegetables) prior to service. Syn: Precooked foods, processed foods R-t-e foods may need preparation / handling prior to eating such as cutting, slicing, mincing, whipping, mixing, etc. Examples include dairy products, cooked meats / poultry / fish / shellfish, delicatessen items, washed raw vegetables, smoked or marinated foods, bought-in meals and desserts etc.</td>
</tr>
<tr>
<td>Checking quality criteria of a bought-in food at receiving point, normally including parameters such as food temperature, labelling, volume / weight, packaging etc.</td>
<td>Receiving control</td>
</tr>
<tr>
<td>The reduction of the amount of oxygen in a package by removing oxygen; displacing oxygen and replacing it with another gas or combination of gases; or otherwise controlling the oxygen content to a level below that normally found in the surrounding 21% oxygen atmosphere.</td>
<td>Reduced oxygen packaging</td>
</tr>
<tr>
<td>A cold store (cold room / walk-in refrigerator, cabinet, or display) operated at a temperature which prolongs shelf-life of perishable foods with a few days or weeks.</td>
<td>Refrigerator</td>
</tr>
<tr>
<td>See Definition “High-risk ready-to-eat foods”</td>
<td>Ready-to-eat high risk foods</td>
</tr>
<tr>
<td>Regional Hygiene Manager</td>
<td>RHM</td>
</tr>
<tr>
<td>Regional Internal Audit: Audit realised by the Regional Hygiene Manager</td>
<td>RIA</td>
</tr>
<tr>
<td>A function of the probability of an adverse effect and the severity of that effect, consequential to a hazard(s) in food. Risk of a hazard may in a simple way be expressed as the probability with which a hazard may occur.</td>
<td>Risk</td>
</tr>
<tr>
<td>A process consisting of three components: risk assessment, risk management and risk communication.</td>
<td>Risk Analysis</td>
</tr>
<tr>
<td>The scientific evaluation of known or potential adverse health effects resulting from human exposure to foodborne hazards.</td>
<td>Risk Assessment</td>
</tr>
<tr>
<td>Integration of hazard identification, hazard characterisation and exposure assessment into an estimation of the adverse effects likely to occur in a given population, including attendant uncertainties.</td>
<td>Risk Characterisation</td>
</tr>
<tr>
<td>A risk factor is anything statistically shown to have a relationship with the incidence of a disease, however it does not necessarily infer cause and effect.</td>
<td>Risk factor</td>
</tr>
<tr>
<td>The process of weighing policy alternatives to accept, minimise or reduce assessed risks and to select and implement appropriate options.</td>
<td>Risk Management</td>
</tr>
<tr>
<td>Equipment, such as china, glassware, or reusable plasticware, that can be washed and reused as service ware for inflight food and beverage service.</td>
<td>Rotable Equipment</td>
</tr>
<tr>
<td>For the purposes of the Food Safety Standards, food is not safe if it would be likely to cause physical harm to a person who might later consume it, assuming it was:</td>
<td>Safe and suitable food</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<td>-------------------------------</td>
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</tr>
<tr>
<td>a) after that time and before being consumed by the person, properly subjected to all processes (if any) that are relevant to its reasonable intended use; and b) consumed by the person according to its reasonable intended use.</td>
<td></td>
</tr>
<tr>
<td>Safe food</td>
<td>Food that has been produced, stored and distributed under safe conditions and which does not contain harmful amounts of microorganisms, chemicals and foreign bodies.</td>
</tr>
<tr>
<td>Sanitary design</td>
<td>Designed and constructed so that an area, conveyance, or equipment: meets the requirements appropriate to its use. can be readily maintained, cleaned, sanitised and sterilised where required to ensure that it is free from contaminants and vermin. and in relation to any equipment or access way in any food area, also means that the equipment or access way is easily accessible for maintenance, cleaning, operation, checking and inspection; and does not allow contaminants to come in contact with any food or other equipment; and precludes the harbouring of accumulation of any contaminants or vermin.</td>
</tr>
<tr>
<td>Sanitation</td>
<td>The application of cumulative heat or chemicals on cleaned food-contact surfaces that, when evaluated for efficacy, is sufficient to yield a reduction of 5 logs, which is equal to a 99.999% reduction of representative disease micro-organisms of public health importance.</td>
</tr>
<tr>
<td>Sanitise</td>
<td>The process of freeing a surface or object from dirt and micro-organisms.</td>
</tr>
<tr>
<td>Sanitiser</td>
<td>A substance that reduces the microbial contamination on inanimate surfaces to levels that are safe from a public health standpoint. The European equivalent to the US expression sanitiser is disinfectant.</td>
</tr>
<tr>
<td>Sealed</td>
<td>Free of cracks or other openings that allow the entry or passage of moisture.</td>
</tr>
<tr>
<td>Segregation</td>
<td>Separation of raw food and ready-to-eat food in storage and handling.</td>
</tr>
<tr>
<td>Separate by distance</td>
<td>To separate to such an extent so as to avoid any possible contact, splash, contamination, etc., between specific functions, processes or personnel.</td>
</tr>
<tr>
<td>Separate by time</td>
<td>To end one function or process prior to starting a different function or process, with a cleaning operation in between.</td>
</tr>
<tr>
<td>Separate physically</td>
<td>To separate by floor to ceiling solid walls and doors, or to fully protect product by pipelines, enclosed vats, etc.</td>
</tr>
<tr>
<td>Severity</td>
<td>The seriousness of the effect(s) of a hazard.</td>
</tr>
<tr>
<td>Sewage</td>
<td>Liquid waste containing animal or vegetable matter in suspension or solution and may include liquids containing chemicals in solution.</td>
</tr>
<tr>
<td>Shellfish, crustacean</td>
<td>Shrimp, prawns, crabs, lobsters, crayfish</td>
</tr>
<tr>
<td>Shelf life</td>
<td>Period of time during which a food remains fit for consumption if maintained throughout the period under controlled conditions pre-</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td>Shellfish, molluscan</td>
<td>Mussels, scallops, clams, oysters, abalone</td>
</tr>
<tr>
<td>Short Haul Flight</td>
<td>Less than 4 hours with the need of a second service</td>
</tr>
<tr>
<td>Single-use item</td>
<td>An instrument, apparatus, utensil or other thing intended by the manufacturer to only be used once in connection with food handling and includes disposable gloves.</td>
</tr>
</tbody>
</table>
| Smooth                      | A food-contact surface having a surface free of pits and inclusions with a cleanability equal to or exceeding that of (100 grit) number 3 stainless steel.  
                                  | A non-food-contact surface of equipment having a surface equal to that of commercial grade hot-rolled steel free of visible scale; and  
                                  | c) A floor, wall, or ceiling having an even or level surface with no roughness or projections that render it difficult to clean. |
| Soap                        | See detergent.                                                                                                                              |
| Sous vide                   | “Cooking in the bag” - concept of ready-to-eat food production with long shelf-life of the cooked product under low refrigeration temperature in vacuum bags.  
                                  | Official definition: Cooking of raw foods under controlled temperature / time conditions in heat-stable vacuum bags.                        |
| SOP                         | Standard Operating Procedure. A detailed description of how a particular task is to be carried out. See also GMP.                             |
| Special Meals               | Meals prepared especially for a passenger’s diet, taste or religious preference and prepared under the airline’s specifications.  
<pre><code>                              | International special meal codes and guidelines have been agreed upon by the airline industry in an effort to improve the consistency of special meals for passengers. |
</code></pre>
<p>| Specification               | A document giving a description of material, machinery, equipment, process, or product in terms of its required properties or performance. Where quantitative requirements are stated, they are either in terms of limits or in terms of standards within permitted tolerances. |
| SPML                        | Special meal.                                                                                                                               |
| Spore, bacterial            | A survival body. Formed by only a few foods poisoning bacterial types, i.e., Bacillus cereus, Clostridium perfringens and Cl. Botulinum.        |
| Spoilage                    | A process in food which makes the food unsuitable for human consumption through incorrect or prolonged storage.                               |
| Supplier, approved          | A food supplier approved by the DO&amp;CO Supplier Approval Procedure.                                                                          |
| Supplier, divisional        | An approve supplier whose products are purchased and used by units across one or several divisions.                                           |
| Supplier, country           | An approve supplier whose products are purchased and used by units across one or several countries.                                          |
| Supplier, global            | The former term global supplier is no longer commonly used, as only 1 or 2 true global suppliers remain.                                     |
| Supplier, local             | An approve supplier whose products are purchased and used by one or several units in a city or a narrow geographical area.                |</p>
<table>
<thead>
<tr>
<th><strong>Spoilage</strong></th>
<th>A process in food which makes the food unsuitable for human consumption through incorrect or prolonged storage.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sterilisation</strong></td>
<td>The process of destroying micro-organisms.</td>
</tr>
<tr>
<td><strong>Temperature measuring device</strong></td>
<td>A thermometer, thermocouple, thermistor, or other device that indicates the temperature of food, air, or water.</td>
</tr>
<tr>
<td><strong>Thawing</strong></td>
<td>A controlled process for defrosting frozen products.</td>
</tr>
<tr>
<td><strong>Thermolabel</strong></td>
<td>Temperature sensitive label used for monitoring operating time / temperature pasteurisation capacity of dishwashers.</td>
</tr>
<tr>
<td><strong>Thermometer, probe</strong></td>
<td>A thermometer equipped with a metal probe for checking temperature inside food.</td>
</tr>
<tr>
<td><strong>Thermometer, infrared</strong></td>
<td>A thermometer equipped with an infrared device for checking food surface temperature. An infrared thermometer may be delivered with or without laser “tracer”.</td>
</tr>
<tr>
<td><strong>Thermometer, between bags</strong></td>
<td>A thermometer designed for checking temperature between food bags without penetrating bags.</td>
</tr>
<tr>
<td><strong>Traceability</strong></td>
<td>Ability to trace and follow a food, feed, food producing animal or substance intended to be or expected to be incorporated into food or feed, through all stages of production, processing, and distribution</td>
</tr>
<tr>
<td><strong>Unclean areas</strong></td>
<td>Areas for storage, handling and transport of raw foods, unclean equipment and waste, e.g., refrigerators for storage of raw foods, raw food preparation areas, unclean sections of pot wash, dishwasher, waste collection station.</td>
</tr>
<tr>
<td><strong>Unclean processes</strong></td>
<td>Storage, handling and transport of raw foods, unclean equipment and waste.</td>
</tr>
<tr>
<td><strong>Use by date</strong></td>
<td>Date mark on perishable pre-packed foods. In most countries it is illegal to sell foods after the Use by date.</td>
</tr>
<tr>
<td><strong>Utensil</strong></td>
<td>A food-contact implement or container used in the storage preparation, transportation, dispensing or service of food, such as kitchenware or tableware that is multiuse, single-service, or single-use; gloves used in contact with food; food temperature measuring devices.</td>
</tr>
<tr>
<td><strong>Vacuum packaging</strong></td>
<td>Air is removed from a package of food and the package is hermetically sealed so that a vacuum remains inside the package, such as sous vide.</td>
</tr>
<tr>
<td><strong>Validation</strong></td>
<td>Obtaining evidence that the elements of the HACCP plan are effective.</td>
</tr>
<tr>
<td><strong>Virus, food borne</strong></td>
<td>A group of microorganisms, which may be transmitted by food and may cause illness, e.g., Norwalk virus. Virus may survive, but not multiply in food.</td>
</tr>
<tr>
<td><strong>Verification</strong></td>
<td>Check of unit monitoring results by an external or internal auditor in order to assess / verify quality of unit control.</td>
</tr>
<tr>
<td><strong>Water Activity</strong></td>
<td>The relationship between the moisture content of the product and the relative humidity of the air surrounding it. Must not be confused with water content</td>
</tr>
<tr>
<td><strong>Water Activity Level</strong></td>
<td>A factor which represents a ratio of the vapour pressure of food to that of pure water. It indicates how much available water is in a product that micro-organisms can use for growth. Products that have very low water activity levels, or are very dry, will not support</td>
</tr>
<tr>
<td>Water, mineral-</td>
<td>Mineral contents may be adjusted. Does not have to be tapped at the well.</td>
</tr>
<tr>
<td>Water, natural mineral-</td>
<td>Min. 500mg natural mineral salts per litre. Must be tapped at the well and not be transported in bulk. Carbon dioxide may be added.</td>
</tr>
<tr>
<td>Water, well-</td>
<td>As for natural mineral water, but mineral content may be lower than 500 mg / l.</td>
</tr>
<tr>
<td>Wet areas</td>
<td>Areas cleaned by wet cleaning procedures, e.g., preparation areas, kitchens, pastry section, bakery, dishwash, pot wash, waste collection station. Walk-in refrigerators may be wet cleaned or dry cleaned.</td>
</tr>
</tbody>
</table>

| % | Percent. |
| °C | Degrees Celsius |
| °F | Degrees Fahrenheit |
| cfu/g | Colony forming units per gram |
| mg/L | Milligrams per litre, which is the metric equivalent of parts per million (ppm) |
| ppm | Parts per million |